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## INTRODUCTION

Liquidity reflects a financial institution's ability to fund assets and meet financial obligations. Liquidity is essential in all banks to meet customer withdrawals, compensate for balance sheet fluctuations, and provide funds for growth. Funds management involves estimating liquidity requirements and meeting those needs in a cost-effective way. Effective funds management requires financial institutions to estimate and plan for liquidity demands over various periods and to consider how funding requirements may evolve under various scenarios, including adverse conditions. Banks must maintain sufficient levels of cash, liquid assets, and prospective borrowing lines to meet expected and contingent liquidity demands.

Liquidity risk reflects the possibility an institution will be unable to obtain funds, such as customer deposits or borrowed funds, at a reasonable price or within a necessary period to meet its financial obligations. Failure to adequately manage liquidity risk can quickly result in negative consequences for an institution despite strong capital and profitability levels. Management must maintain sound policies and procedures to effectively measure, monitor, and control liquidity risks.

A certain degree of liquidity risk is inherent in banking. An institution's challenge is to accurately measure and prudently manage liquidity demands and funding positions. To efficiently support daily operations and provide for contingent liquidity demands, banks must:

- Establish an appropriate liquidity risk management program,
- Ensure adequate resources are available to fund ongoing liquidity needs,
- Establish a funding structure commensurate with risks,
- Evaluate exposures to contingent liquidity events, and
- Ensure sufficient resources are available to meet contingent liquidity needs.

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## RISK MANAGEMENT PROGRAM

An institution's liquidity risk management program establishes the liquidity management framework. Comprehensive and effective programs encompass all elements of a bank's liquidity, ranging from how the institution manages routine liquidity needs to managing liquidity during a severe stress event. Elements of a sound liquidity risk management program include:

- Effective management and board oversight;

- Appropriate liquidity management policies, procedures, strategies, and risk limits;
- Comprehensive liquidity risk measurement and monitoring systems;
- Adequate levels of marketable assets;
- Diverse mix of existing and potential funding sources;
- Comprehensive contingency funding plans;
- Appropriate plans for potential stress events; and
- Effective internal controls and independent audits.

The formality and sophistication of effective liquidity management programs correspond to the type and complexity of an institution's activities, and examiners should assess whether programs meet the institution's needs. Examiners should consider whether liquidity risk management activities are integrated into the institution's overall risk management program and address liquidity risks associated with new or existing business strategies.

Close oversight and sound risk management processes (particularly when planning for potential stress events) are especially important if management pursues asset growth strategies that rely on new or potentially volatile funding sources.

## Board and Senior Management Oversight

Board oversight is critical to effective liquidity risk management. The board is responsible for establishing the institution's liquidity risk tolerance and clearly communicating it to all levels of management. Additionally, the board is also responsible for reviewing, approving, and periodically updating liquidity management strategies, policies, procedures, and risk limits. When assessing the effectiveness of board oversight, examiners should consider whether the board:

- Understands and periodically reviews the institution's current liquidity position and contingency funding plans;
- Understands the institution's liquidity risks and periodically reviews information necessary to maintain this understanding;
- Establishes an asset/liability committee (ALCO) and guidelines for electing committee members, assigning responsibilities, and establishing meeting frequencies;
- Establishes executive-level lines of authority and responsibility for managing the institution's liquidity risk;
- Provides appropriate resources to management for identifying, measuring, monitoring, and controlling liquidity risks; and
- Understands the liquidity risk profiles of significant subsidiaries and affiliates.

Management is responsible for appropriately implementing board-approved liquidity policies, procedures, and strategies. This responsibility includes overseeing the development and implementation of appropriate risk measurement and reporting systems, contingency funding plans, and internal controls. Management is also responsible for regularly reporting the institution's liquidity risk profile to the board.

Examiners should consider whether an ALCO (or similar entity) actively monitors the institution's liquidity profile. Effective ALCOs typically have sufficient representation across major functions (e.g., lending, investments, wholesale and retail funding, etc.) to influence the liquidity risk profile. The committee is usually responsible for ensuring that liquidity reports include accurate, timely, and relevant information on risk exposures.

Examiners should evaluate corporate governance by reviewing liquidity management processes (including daily, monthly, and quarterly activities), committee minutes, liquidity and funds management policies and procedures, and by holding discussions with management. Additionally, examiners should consider the findings of independent reviews and prior reports of examination when assessing the effectiveness of corrective actions.

### **Liquidity Management Strategies**

Liquidity management strategies involve short- and long-term decisions that can change over time, especially during times of stress. Therefore, the institutions' policies often require management to meet regularly and consider liquidity costs, benefits, and risks as part of the institution's overall strategic planning and budgeting processes. As part of this process, management typically:

- Performs periodic liquidity and profitability evaluations for existing activities and strategies;
- Identifies primary and contingent funding sources needed to meet daily operations, as well as seasonal and cyclical cash flow fluctuations;
- Ensures liquidity management strategies are consistent with the board's expressed risk tolerance; and
- Evaluates liquidity and profitability risks associated with new business activities and strategies.

### **Collateral Position Management**

Assets are a key source of funds for financial institutions as they can generate substantial cash inflows through principal and interest payments. Assets can also provide funds when sold or when used as collateral for borrowings. Financial institutions routinely pledge assets when borrowing funds or obtaining credit lines through Federal

Home Loan Banks, the Federal Reserve discount window, or other banks.

Examiners should consider whether the institution established reporting systems that facilitate the monitoring and management of assets pledged as collateral for borrowed funds. At a minimum, pledged asset reports typically detail the value of assets currently pledged relative to the amount of security required and identify the type and amount of unencumbered assets available for pledging.

Examiners should also consider whether the reporting systems are commensurate with borrowing activities and the institution's strategic plans. Institutions with limited amounts of long-term borrowings may be able to monitor collateral levels adequately by reviewing monthly or quarterly reports. Institutions with material payment, settlement, and clearing activities benefit from actively monitoring short- (including intraday), medium-, and long-term collateral positions.

Effective management teams thoroughly understand all borrowing agreements (contractual or otherwise) that may require the bank to provide additional collateral, substitute existing collateral, or deliver collateral. Such requirements may be triggered by changes in an institution's financial condition. Examiners should determine whether management considers potential changes to collateral requirements in cash flow projections, stress tests, and contingency funding plans. Examiners should also determine whether management considers the operational and timing requirements associated with physically accessing collateral (such as at a custodian institution or a securities settlement location where the collateral is held).

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## **POLICIES, PROCEDURES, & REPORTING**

### **Liquidity Policies and Procedures**

Comprehensive written policies, procedures, and risk limits form the basis of liquidity risk management programs. All financial institutions benefit from board-approved liquidity management policies and procedures specifically tailored for their institution.

Even when operating under a holding company with centralized planning and decision-making, the bank's directors are responsible for ensuring that the structure, responsibility, and controls for managing their institution's liquidity risk are clearly documented. To fulfill their oversight responsibilities, directors regularly monitor reports that highlight bank-only liquidity factors.

While there is no reason to criticize the existence of centralized planning and decision-making, each bank's board of directors has a legal responsibility to maintain policies, procedures, and risk limits tailored to its individual bank's risk profile.

Boards that review and approve liquidity policies at least annually ensure such policies remain relevant and appropriate for the institutions' business model, complexity, and risk profile. Written policies are important for defining the scope of the liquidity risk management program and ensuring that:

- Sufficient resources are devoted to liquidity management,
- Liquidity risk management is incorporated into the institution's overall risk management process, and
- Management and the board share an understanding of strategic decisions regarding liquidity.

Effective policies and procedures address liquidity matters (such as legal, regulatory, and operational issues) separately for legal entities, business lines, and, when appropriate, individual currencies. Sound liquidity and funds management policies typically:

- Provide for the effective operation of the ALCO. ALCO policies would address responsibilities for assessing current and projected liquidity positions, implementing board-approved strategies, reviewing policy exceptions, documenting committee actions, and reporting to the board;
- Provide for the periodic review of the bank's deposit structure. Effective reviews typically include assessments of the volume and trend of total deposits, the types and rates of deposits, the maturity distribution of time deposits, and competitor rate information. Other information considered in the reviews, when applicable, includes the volume and trend of large time deposits, public funds, out-of-area deposits, potentially rate sensitive depositors, wholesale deposits, and uninsured deposits;
- Address permissible funding sources and concentration limits. Items addressed generally include funding types with similar rate sensitivity or volatility, such as brokered or Internet deposits and deposits generated through promotional offers.
- Provide a method of computing the bank's cost of funds;
- Establish procedures for measuring and monitoring liquidity. Procedures generally include static measurements and cash flow projections that forecast base case and stress scenarios;

- Address the type and mix of permitted investments. Items addressed typically include the maturity distribution of the portfolio, which investments are available for liquidity purposes, and the level and quality of unpledged investments;
- Provide for an adequate system of internal controls. Controls typically require periodic, independent reviews of liquidity management processes and compliance with internal policies, procedures, and risk limits;
- Include a contingency funding plan that identifies alternate funding sources if liquidity projections are incorrect or a liquidity crisis arises;
- Require periodic testing of liquidity lines;
- Establish procedures for reviewing and documenting assumptions used in liquidity projections;
- Define procedures for approving exceptions to policies, limits, and authorizations;
- Identify permissible wholesale funding sources;
- Define authority levels and procedures for accessing wholesale funding sources;
- Establish a process for measuring and monitoring unused borrowing capacity;
- Convey the board's risk tolerance by establishing target liquidity ratios and parameters under various time horizons and scenarios; and
- Include other items unique to the bank.

### Risk Tolerances

Examiners should consider whether liquidity policies accurately reflect the board's risk tolerance and delineate qualitative and quantitative guidelines commensurate with the institution's business profile and balance sheet complexity. Typical risk guidelines include:

- Targeted cash flow gaps over discrete and cumulative periods and under expected and adverse business conditions;
- Expected levels of unencumbered liquid assets;
- Measures for liquid asset coverage ratios and limits on potentially unstable liabilities;
- Concentration limits on assets that may be difficult to convert into cash (such as complex financial instruments, bank-owned life insurance, and less-marketable loan portfolios);
- Limits on the level of borrowings, brokered funds, or exposures to single fund providers or market segments;
- Funding diversification standards for short-, medium-, and long-term borrowings and instrument types;
- Limits on contingent liability exposures such as unfunded loan commitments or lines of credit;

- Collateral requirements for derivative transactions and secured lending;
- Limits on material exposures in complex activities (such as securitizations, derivatives, trading, and international activities).

Examiners should consider whether management and the board establish meaningful risk limits, periodically evaluate the appropriateness of established limits, and compare actual results to approved risk limits. Identified policy exceptions and related corrective actions are typically noted in board or committee minutes.

### Liquidity Reporting

Timely and accurate information is a prerequisite to sound funds management practices. Banks benefit from liquidity risk reports that clearly highlight the bank's liquidity position, risk exposures, and level of compliance with internal risk limits.

Examiners should consider the adequacy of liquidity reporting procedures. Typically, bank personnel tasked with ongoing liquidity administration receive liquidity risk reports at least daily. Senior officers may receive liquidity reports weekly or monthly, and the board of directors may receive liquidity risk reports monthly or quarterly. Depending on the complexity of the business mix and liquidity risk profile, institutions may increase, sometimes on short notice, the frequency of liquidity reporting.

The format and content of liquidity reports will vary depending on the characteristics of each bank and its funds management practices. Examiners should consider whether an institution's management information systems and internal reports provide accurate, pertinent information such as:

- Liquidity needs and the sources of funds available to meet these needs over various time horizons and scenarios (reports are often referred to as pro-forma cash flow reports, sources and uses reports, or scenario analyses);
- Collateral positions, including pledged and unpledged assets (and when necessary, the availability of collateral by legal entity, jurisdiction, and currency exposure);
- Public funds and other material providers of funds (including rate and maturity information);
- Funding categories and concentrations;
- Asset yields, liability costs, net interest margins, and variations from the prior month and budget (beneficial reports are detailed enough to permit an analysis of interest margin variations);

- Early warning indicators for contingency funding events;
- Policy exceptions;
- Interest rate projections and economic conditions in the bank's trade area;
- Information concerning non-relationship or higher-cost funding programs;
- The stability of deposit customers and providers of wholesale funds;
- The level of highly liquid assets;
- Stress test results; and
- Other items unique to the bank.

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### LIQUIDITY RISK MEASUREMENT

To identify potential funding gaps, banks typically monitor cash flows, assess the stability of funding sources, and project future funding needs. When assessing an institution's liquidity rating, examiners should evaluate the adequacy of an institution's liquidity risk measurement and monitoring procedures.

#### Pro-Forma Cash Flow Projections

Historically, most financial institutions used single point-in-time (static) measurements (such as loan-to-deposit or loan-to-asset ratios) to assess their liquidity position. Static liquidity measures provide valuable information and remain a key part of banks' liquidity analysis. However, cash flow forecasting can enhance a financial institution's ability to monitor and manage liquidity risk.

Cash flow forecasts can be useful for all banks and become essential when operational areas (loans, deposits, investments, etc.) are complex or managed separately from other areas in the bank. Cash flow projections enhance management's ability to evaluate and manage these areas individually and collectively.

The sophistication of cash flow forecasting ranges from the use of simple spreadsheets to comprehensive liquidity risk models. Some vendors that offer interest rate risk (IRR) models provide options for modeling liquidity cash flows because the base information is already maintained for IRR modeling. When reviewing liquidity risk models, examiners should ensure management compares funding sources and liquidity needs, over various periods, using modeling assumptions that are appropriate for managing liquidity rather than IRR.

Cash flow projections typically forecast funding sources and uses over short-, medium-, and long-term time horizons. Non-complex community banks that are in a sound condition may forecast short-term positions

monthly. More complex institutions may need to perform weekly or daily forecasts, and institutions with large payment systems and settlement activities may need to conduct intra-day measurements. All institutions benefit from having the ability to increase the frequency of monitoring and reporting during a stress event.

Effective cash flow analysis allows management to plan for tactical (short-term) and strategic (medium- and long-term) liquidity needs. Examiners should review the bank's procedures, assumptions, and information used to develop cash flow projections. For example, examiners should consider whether funding sources and uses are adequately stratified, as excessive account aggregations in liquidity analysis can mask substantial liquidity risk. Similar to measuring IRR, there are advantages to utilizing account level information. For some institutions, gathering and measuring information on specific accounts may not be feasible due to information system limitations. Although the advantages of using detailed account information may not be as evident for a non-complex institution, generally, all institutions can benefit from using more detailed account information in their liquidity models.

Examiners should carefully assess the assumptions that institutions use when projecting cash flows. The reliability of the projections is enhanced when projections are based on reasonable assumptions and reliable data. Additionally, the accuracy and reliability of cash flow projections is enhanced when projected cash flows consider contractual and expected cash flows. For example, when projecting funding requirements for construction loans, the accuracy of cash flow projections is enhanced when management includes estimates of the amount of available credit that will actually be drawn in a given period, not simply the full amount of contractual obligations. Additionally, to improve the accuracy of forecasting maturing time deposits, particularly those obtained through special rate promotions, the analysis should consider the retention rate of maturing deposits.

Modeling assumptions play a critical role in measuring liquidity risks and projecting cash flows. Therefore, institutions benefit from ensuring key assumptions are reasonable, well documented, and periodically reviewed and approved by the board. Ensuring the accuracy of assumptions is also important when assessing the liquidity risk of complex assets, liabilities, and off-balance sheet positions and can be critical when evaluating the availability of funding sources under adverse, contingent liquidity scenarios. Accurate and reliable cash flow forecasting can benefit institutions by reducing liquidity risks and allowing institutions to maintain a lower liquid asset cushion.

### Back Testing

The reliability of cash flow projections may also be enhanced if institutions evaluate assumptions about customer behavior, separately estimate gross cash flows on both sides of the balance sheet, and compare modeling projections to actual results (back testing). Back testing allows management to make adjustments to cash flow models and modeling assumptions, as appropriate, to reflect changes in cash flow characteristics.

### Scenario Analysis

Cash flow projections can also be used in scenario analysis and developing contingency funding plans. Institutions typically start with base case projections that assume normal cash flows, market conditions, and business operations over the selected time horizon. Management then tests stress scenarios by changing various cash flow assumptions in the base case scenario. For example, if the stress scenario assumed a change in a Prompt Corrective Action (PCA) capital category that triggered interest rate restrictions and brokered deposit limitations, management should adjust assumptions to reflect the possible limitation or elimination of access to affected funding sources. Management typically uses this information in developing funding plans to mitigate these risks.

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## FUNDING SOURCES - ASSETS

The amount of liquid assets that a bank maintains is generally a function of the stability of its funding structure, the risk characteristics of the balance sheet, and the adequacy of its liquidity risk measurement program. Generally, a lower level of unencumbered liquid assets may be sufficient if funding sources are stable, established borrowing facilities are largely unused, and other risk characteristics are predictable. A higher level of unencumbered liquid assets may be required if:

- Bank customers have numerous alternative investment options,
- Recent trends show a substantial reduction in large liability accounts,
- The bank has a material reliance on less stable funding sources,
- The loan portfolio includes a high volume of non-marketable loans,
- The bank expects several customers to make material draws on unused lines of credit,
- Deposits include substantial amounts of short-term municipal accounts,
- A concentration of credits was extended to an industry with existing or anticipated financial problems,

- A close relationship exists between individual demand accounts and principal employers in the trade area who have financial problems,
- A material amount of assets is pledged to support wholesale borrowings, or
- The institution's access to capital markets is impaired.

A bank's assets provide varying degrees of liquidity and can create cash inflows and outflows. Institutions generally retain a certain level of highly liquid assets to meet immediate funding needs, and hold other types of investments to provide liquidity for meeting ongoing operational needs and responding to contingent funding events. To balance profitability goals and liquidity demands, management must carefully weigh the full benefits (yield and increased marketability) of holding liquid assets against the expected higher returns associated with less liquid assets. Income derived from holding longer-term, higher-yielding assets may be offset if an institution is forced to sell the assets quickly due to adverse balance sheet fluctuations.

### Cash and Due from Accounts

Cash and due from accounts are essential for meeting daily liquidity needs. Institutions rely on cash and due from accounts to fund deposit account withdrawals, disburse loan proceeds, cover cash letters, fund bank operations, meet reserve requirements, and provide compensating balances relating to correspondent bank accounts/services.

### Loan Portfolio

The loan portfolio is an important factor in liquidity management. Loan payments provide steady cash flows, and loans can be used as collateral for secured borrowings or sold for cash in the secondary loan market. However, the quality of the loan portfolio can directly impact liquidity. For example, if an institution encounters asset quality issues, operational cash flows may be affected by the level of non-accrual borrowers and late payments.

For many institutions, loans serve as collateral for wholesale borrowings such as Federal Home Loan Bank (FHLB) borrowings. If asset quality issues exist, an institution may find that delinquent loans do not qualify as collateral. Also, higher amounts of collateral may be required because of doubts about the overall quality of the portfolio. These "haircuts" can be substantial and are an important consideration in stress tests.

Comprehensive liquidity analysis includes consideration of contractual requirements and customers' behavior when forecasting loan cash flows. Prepayments and renewals can significantly affect contractual cash flows for many

types of loans. Customer prepayments are a common consideration for residential mortgage loans (and mortgage-backed securities) and can be a factor for commercial and commercial real estate loans (and related securities). Assumptions related to revolving lines of credit and balloon loans can also have a material effect on cash flows. For example, examiners should determine whether management's assumption for loans generating cash flow in accordance with contractual obligations is supported by historical data.

### Asset Sales/Securitizations

As noted above, assets can be used as collateral for secured borrowings or sold for cash in the secondary market. Sales in the secondary market can provide fee income, relief from interest rate risk, and a funding source to the originating bank. However, for an asset to be saleable at a reasonable price in the secondary market, it must generally conform to market (investor) requirements. Because loans and loan portfolios may have unique features or defects that hinder or prevent their sale into the secondary market, institutions benefit from thoroughly reviewing loan characteristics and documenting assumptions related to loan portfolios when developing cash flow projections.

Some institutions are able to use securitizations as a funding vehicle by converting a pool of assets into cash. Asset securitization typically involves the transfer or sale of on-balance sheet assets to a third party that issues mortgage-backed securities (MBS) or asset-backed securities (ABS). These instruments are then sold to investors. The investors are paid from the cash flow from the transferred assets. Assets that are typically securitized include credit card receivables, automobile receivables, commercial and residential mortgage loans, commercial loans, home equity loans, and student loans.

Securitization can be an effective funding method for some banks. However, there are several risks associated with using securitization as a funding source. For example:

- Some securitizations have early amortization clauses to protect investors if the performance of the underlying assets does not meet specified criteria. If an early amortization clause is triggered, the issuing institution needs to begin paying principal to bondholders earlier than originally anticipated and have to fund new receivables that would have otherwise been transferred to the trust. Institutions involved in securitizations benefit from monitoring asset performance to better anticipate cash flow and funding ramifications due to early amortization clauses.
- If the issuing institution has a large concentration of residual assets, the institution's overall cash flow

might be dependent on the residual cash flows from the performance of the underlying assets. If the performance of the underlying assets is worse than projected, the institution's overall cash flow will be less than anticipated.

- Residual assets retained by the issuing institution are typically illiquid assets for which there is no active market. Additionally, the assets are not acceptable collateral to pledge for borrowings.
- An issuer's market reputation can affect its ability to securitize assets. If the bank's reputation is damaged, issuers might not be able to economically securitize assets and generate cash from future sales of loans to the trust. This is especially true for institutions that are relatively new to the securitization market.
- The timeframe required to securitize loans held for sale may be considerable, especially if the institution has limited securitization experience or encounters unforeseen problems.

Institutions that identify asset sales or securitizations as contingent liquidity sources, particularly institutions that rarely sell or securitize loans, benefit from periodically testing the operational procedures required to access these funding sources. Market-access testing helps ensure procedures work as anticipated and helps gauge the time needed to generate funds; however, testing does not guarantee the funding sources will be available or on satisfactory terms during stress events.

A thorough understanding of applicable accounting and regulatory rules is critical when securitizing assets. Accounting standards make it difficult to achieve sales treatment for certain financial assets. The standards influence the use of securitizations as a funding source because transactions that do not qualify for sales treatment require the selling institution to account for the transfer as a secured borrowing with a pledge of collateral. As such, institutions must account for, and risk weight, the transferred financial assets as if the transfer had not occurred. Accordingly, institutions should continue to report the transferred assets in financial statements with no change in the measurement of the financial assets transferred.

When financial assets are securitized and accounted for as a sale, institutions often provide contractual credit enhancements, which may involve over-collateralization, retained subordinated interests, asset repurchase obligations, cash collateral accounts, spread accounts, or interest-only strips. Part 324 of the FDIC Rules and Regulations requires the issuing institution to hold capital as a buffer against the retained credit risk arising from these contractual credit enhancements.

There can also be non-contractual support for ABS transactions that would be considered implicit recourse. The recourse may create credit, liquidity, and regulatory capital implications for issuers that provide implicit support for ABS transactions. Institutions typically provide implicit recourse in situations where management perceives that the failure to provide support, even though not contractually required, would damage the institution's future access to the ABS market. For risk-based capital purposes, institutions deemed to be providing implicit recourse are generally required to hold capital against the entire outstanding amount of assets sold, as though they remained on the books.

The federal banking agencies' concerns over the retained credit and other risks associated with such implicit support are detailed in the *Interagency Guidance on Implicit Recourse in Asset Securitizations* (See FDIC's Financial Institution Letter 52-2002).

### Investment Portfolio

An institution's investment portfolio can provide liquidity through regular cash flows, maturing securities, the sale of securities for cash, or by pledging securities as collateral for borrowings, repurchase agreements, or other transactions. Institutions can benefit from periodically assessing the quality and marketability of the portfolio to determine:

- The level of unencumbered securities available to pledge for borrowings,
- The financial impact of unrealized gains and losses,
- The effect of changes in asset quality, and
- The potential need to provide additional collateral should rapid changes in market rates significantly reduce the value of longer-duration investments pledged to secure borrowings.

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### FUNDING SOURCES – LIABILITIES

Deposits are the most common funding source for many institutions; however, other liability sources such as borrowings can also provide funding for daily business activities, or as alternatives to using assets to satisfy liquidity needs. Deposits and other liability sources are often differentiated by their stability and customer profile characteristics.

#### Core Deposits

Core deposits are generally stable, lower-cost funding sources that typically lag behind other funding sources in repricing during a period of rising interest rates. The



deposits are typically funds of local customers that also have a borrowing or other relationship with the institution. Convenient branch locations, superior customer service, extensive ATM networks, and low or no fee accounts are factors that contribute to the stability of the deposits. Other factors include the insured status of the account and the type of depositor (retail, commercial, municipality, etc.).

Examiners should assess the stability of deposit accounts when reviewing liquidity and funds management practices. Generally, higher-cost, non-relationship deposits, such as Internet deposits or deposits obtained through special-rate promotions, may be considered less-stable funding sources. Brokered deposits are not considered core deposits or a stable funding source due to the brokered status and wholesale characteristics.

*Core deposits* are defined in the Uniform Bank Performance Report (UBPR) User's Guide as the sum of all transaction accounts, money market deposit accounts (MMDAs), nontransaction other savings deposits (excluding MMDAs), and time deposits of \$250,000 and below, less fully insured brokered deposits of \$250,000 and less. In some instances, core deposits included in the UBPR's core deposit definition might exhibit characteristics associated with less stable funding sources. For example, out-of-area certificates of deposit (CDs) of \$250,000 or less that are obtained from a listing service may have less stability although they are included in core deposits under the UBPR definition. Management and examiners should not automatically view these deposits as a stable funding source without additional analysis. Alternatively, some deposit accounts generally viewed as volatile, non-core funds by UBPR definitions (for example, CDs larger than \$250,000) might be considered relatively stable after a closer analysis. For instance, a local depositor might have CDs larger than \$250,000 that may be considered stable because the depositor has maintained those deposits with the institution for several years.

While some deposit relationships over \$250,000 remain stable when the institution is in good condition, such relationships might become less stable due to their uninsured status if the institution experiences financial problems. Additionally, deposits identified as stable during good economic conditions may not be reliable funding sources during stress events. Therefore, examiners should consider whether institutions identify deposit accounts likely to be unstable in times of stress and appropriately reflect such deposits in its liquidity stress testing.

Examiners should not assume that all deposits meeting the UBPR definition of *core* are necessarily stable or that all

deposits defined as *non-core* are automatically volatile. Examiners should determine whether management considers the stability of deposit accounts and significant customer relationships and reflects them accordingly in the bank's liquidity monitoring and reporting systems. When analyzing the stability of deposit funding sources, UBPR accounts and ratios should be considered in light of the balance sheet composition, risk profile, deposit stability trends, and other relevant and unique characteristics of the institution.

### Deposit Management Programs

The critical role deposits play in a bank's successful operation demonstrates the importance of implementing programs for retaining or expanding the deposit base. Strong competition for depositors' funds and customers' preference to receive market deposit rates also highlight the benefit of deposit management programs. Effective deposit management programs generally include:

- Regular reports detailing existing deposit types and levels,
- Projections for asset and deposit growth,
- Associated cost and interest rate scenarios,
- Clearly defined marketing strategies,
- Procedures to compare results against projections, and
- Steps to revise the plans when needed.

Deposit management programs generally take into account the make-up of the market-area economy, local and national economic conditions, and the potential for investing deposits at acceptable margins. Other considerations include management expertise, the adequacy of bank operations, the location and size of facilities, the nature and degree of bank and non-bank competition, and the effect of monetary and fiscal policies on the bank's service area and capital markets in general.

Effective deposit management programs are monitored and adjusted as necessary. The long-range success of such programs is closely related to management's ability to identify the need for changes quickly. Effective programs include procedures for accurately projecting deposit trends and carefully monitoring the potential volatility of the accounts (e.g., stable, fluctuating, seasonal, brokered, etc.).

### Wholesale Funds

Wholesale funds include, but are not limited to, brokered deposits, Internet deposits, deposits obtained through listing services, foreign deposits, public funds, federal funds purchased, FHLB advances, correspondent line of credit advances, and other borrowings.

Providers of wholesale funds closely track institutions' financial condition and may cease or curtail funding, increase interest rates, or increase collateral requirements if they determine an institution's financial condition is deteriorating. As a result, some institutions may experience liquidity problems due to a lack of wholesale funding availability when funding needs increase.

The Internet, listing services, and other automated services enable investors who focus on yield to easily identify high-yield deposits. Customers who focus primarily on yield are a less stable source of funding than customers with typical deposit relationships. If more attractive returns become available, these customers may rapidly transfer funds to new institutions or investments in a manner similar to that of wholesale investors.

It is important to measure the impact of the loss of wholesale funding sources on the institution's liquidity position. The challenge of measuring, monitoring, and managing liquidity risk typically increases as the use of wholesale and nontraditional funding sources increases. Institutions that rely more heavily on wholesale funding will often need enhanced funds management and measurement processes, such as scenario modeling. In addition, contingency planning and capital management take on added significance.

### Brokered and Higher-Rate Deposits

Section 29 of the FDI Act, as implemented by Part 337 of the FDIC Rules and Regulations, defines a brokered deposit as a deposit obtained through or with assistance of a deposit broker. The term deposit broker is generally defined by Section 29 as any person engaged in the business of placing deposits, or facilitating the placement of deposits, of third parties with insured depository institutions.

The brokered deposit statute and regulations provide several exceptions to this definition of deposit broker. Some exceptions include an insured depository institution or its employee placing funds with that insured depository institution, certain trust departments of insured depository institutions, certain trustees and plan administrators, an agent whose primary purpose is not to place funds with insured depository institutions, and insured depository institutions acting as an intermediary or agent for a government sponsored minority or women-owned deposit program.

### Listing Services

Listing service companies do not fall under the definition of a deposit broker if certain criteria are met. A listing service is a company that connects banks seeking a deposit

with those seeking to place a deposit. In doing so, the listing service compiles and posts banks' deposit rate information for consideration by interested depositors. A particular company can be a listing service (compiler of information) as well as a deposit broker (facilitating the placement of deposits). In recognition of this possibility, certain criteria are considered for determining when a listing service qualifies as a deposit broker. A listing service is not a deposit broker if:

- The person or entity providing the listing service is compensated solely by means of subscription fees (fees paid by subscribers as payment for their opportunity to see the rates gathered by the listing service) and/or listing fees (fees paid by depository institutions as payment for their opportunity to list their rates). The listing service does not require a depository institution to pay for other services offered by the listing service or its affiliates as a condition precedent to being listed.
- The fees paid by depository institutions are flat fees (i.e., they are not calculated based on the number or dollar amount of deposits accepted by the depository institution as a result of the listing of the depository institution's rates).
- In exchange for fees, the listing service performs no service except the gathering and transmission of information concerning the availability of deposits.
- The listing service is not involved in placing deposits. Any funds to be invested in deposit accounts are remitted directly by the depositor to the insured depository institution and not, directly or indirectly, by or through the listing service.

### Brokered Sweep Accounts

Some brokerage firms, which are investment companies that invest money in stocks, bonds, and other investments on behalf of clients, operate sweep programs in which brokerage customers are given the option to sweep uninvested cash into a bank deposit. This arrangement provides the brokerage customer with additional yield and insurance coverage on swept funds. These swept funds are generally considered brokered deposits unless the third-party brokerage firm meets the primary purpose exception. An institution must receive a favorable determination from the FDIC before it can exclude these funds from regulatory reporting of brokered deposits. Determinations are initially requested through the appropriate regional office. In determining whether the brokerage firm meets the primary purpose exception, staff considers the following criteria:

- The brokerage firm is affiliated with the bank.
- The funds are not swept into time deposit accounts.

- The amount of swept funds does not exceed 10 percent of the total amount of program assets handled by the brokerage firm (permissible ratio) on a monthly basis. When the brokerage also sweeps funds to nonaffiliated banks, which is typically done when the deposit exceeds the \$250,000 deposit insurance limit, these deposits are added to the amount of swept funds for purposes of calculating the permissible ratio.
- The fees in the program are flat fees (i.e., equal per-account or per-customer fees representing payment for recordkeeping or administrative services and not representing payment for placing deposits).

### Network and Reciprocal Deposits

Banks sometimes participate in networks established for the purpose of sharing deposits. In such a network, a participating bank places funds, either directly or through a third-party network sponsor, at other participating network banks in order for its customer to receive full deposit insurance coverage.

Some bank networks establish reciprocal agreements allowing participating banks to send and receive identical deposit amounts simultaneously. This reciprocal agreement allows banks to maintain the same amount of funds they had when the customer made their initial deposit while ensuring that deposits well in excess of the \$250,000 deposit limit are fully insured. While reciprocal network deposits generally meet the definition of a brokered deposit, under certain conditions a limited amount of reciprocal deposits may be excepted from treatment as brokered deposits.

Section 29(i) of the FDI Act (and implemented through Section 337.6(e)(2) of the FDIC Rules and Regulations), excepts a capped amount of reciprocal deposits from treatment as brokered deposits for those insured depository institutions that qualify as an “agent” institution. The amount of reciprocal deposits that an agent institution may except from treatment as brokered deposits may not exceed the lesser of \$5 billion or 20 percent of total liabilities (referred to as the general cap). To qualify as an “agent” institution, the institution must meet one of the following:

- When most recently examined, under section 10(d) of the FDI Act, was found to have a composite condition of outstanding or good, and is well capitalized; or
- Has obtained a brokered deposit waiver from the FDIC; or
- Does not receive an amount of reciprocal deposits that causes the total amount of reciprocal deposits held by the agent institution to be greater than the average of the total amount of reciprocal deposits held by the agent institution on the last day of each of the four

calendar quarters preceding the calendar quarter in which the agent institution was found not to have a composite condition of outstanding or good or was determined to be not well capitalized (also referred to as the special cap).

Treatment and reporting may be impacted if an institution receives reciprocal deposits that exceed its applicable cap (general cap or special cap). Agent institutions that are in outstanding or good composite condition and are well capitalized, or have obtained a brokered deposit waiver, are subject to the general cap, and therefore would report and treat only the amount of reciprocal deposits that exceed the general cap as brokered deposits. Agent institutions that are not well capitalized or not well rated and have not received a brokered deposit waiver can only receive an amount of non-brokered reciprocal deposits up to its special cap. If an agent institution subject to the special cap receives an amount of reciprocal deposits in excess of its special cap, it is no longer an agent institution. If an institution is not an agent institution, all of its reciprocal deposits should be treated and reported as brokered deposits.

Examiners should determine whether an institution’s reciprocal deposits, that are not being report as brokered, conform to the statutory and regulatory definitions under Section 29(i) of the FDI Act and Section 337.6(e) of the FDIC’s Rules and Regulations.

Network member banks may receive other deposits through a network such as (1) deposits received without the institution placing into the network a deposit of the same maturity and same aggregate amount (sometimes referred to as “one-way network deposits”) and (2) deposits placed by the institution into the network where the deposits were obtained, directly or indirectly, by or through a deposit broker. Such other network deposits meet the definition of brokered deposits and would not be eligible for, as previously described, the statutory and regulatory exception provided for a capped amount of reciprocal deposits.

The stability of reciprocal deposits may differ depending on the relationship of the initial customer with the institution. Examiners should consider whether management adequately supports their assessments of the stability of reciprocal deposits, or any funding source, for liquidity management and measurement purposes.

### Brokered Deposit Restrictions

Section 29 of the FDI Act sets forth restrictions on the acceptance of brokered deposits based on an institutions category. Well capitalized banks may accept, renew, or roll over brokered deposits at any time. An adequately

capitalized insured depository institution may not accept, renew, or roll over any brokered deposit unless the institution has applied for and been granted a waiver by the FDIC. An undercapitalized insured depository institution may not accept, renew, or roll over any brokered deposits. If a bank is under any type of formal agreement pursuant to Section 8 of the FDI Act with a directive to meet or maintain any specific capital level, it will no longer be considered well capitalized for the purposes of Part 337.

With respect to adequately capitalized institutions that have been granted a brokered deposit waiver, any safety and soundness concerns arising from the acceptance of brokered deposits are ordinarily addressed by the conditions imposed in granting the waiver application. In monitoring such conditions, it is incumbent on the examiner not only to verify compliance, but also to assess whether any unanticipated problems are being created.

### Deposit Rate Restrictions

In addition to the brokered deposit restrictions noted above, Section 29 of the FDI Act also places certain restrictions on deposit interest rates for banks that are less than well capitalized. Deposit rate restrictions prevent a bank that is not well capitalized from circumventing the prohibition on brokered deposits by offering rates significantly above market in order to attract a large volume of deposits quickly. Under Section 337.6 of the FDIC's Rules and Regulations, a bank that is not well capitalized may not offer deposit rates more than 75 basis points above average national rates for deposits of similar size and maturity (referred to as the national rate cap).

The national rate is a simple average of rates paid by all banks and branches. On a weekly basis, the FDIC publishes national rate data (at [www.fdic.gov](http://www.fdic.gov)) that can be used to determine conformance with the interest rate restrictions. If a bank believes that the national rate does not correspond to the actual rates in the bank's particular market, the bank is permitted to request a determination from the applicable regional office that the bank is operating in a high-rate area.

Examiners should review conformance with interest rate restrictions during examinations of banks that are not well capitalized. If a bank has not received a determination that it is operating in a high-rate area, deposit rates must not exceed the national rate caps posted on the FDIC website. If an institution receives a determination that it is operating in a high-rate area, the institution can establish its market area based on its branch locations and marketing scope. The deposit rates of all FDIC-insured institutions inside the market area must be used when calculating the prevailing rate. An institution may also include as part of its prevailing rate calculation the rates offered by credit

unions that the institution competes with inside its local market area. When using the local market approach, the rate cap for local deposits cannot exceed the prevailing rate of the local market plus 75 basis points. Deposits accepted outside the market area are subject to the national rate caps, even for institutions that have received a determination they are operating in a high-rate area. While in some cases the FDIC may grant a brokered deposit waiver to a less than well-capitalized bank, the FDIC may not waive the interest rate restrictions under the brokered deposit regulations.

### Brokered Deposits Use

The FDI Act does not restrict the use of brokered deposits for well-capitalized institutions, and brokered deposits can be a suitable funding source when properly managed. However, some banks have used brokered deposits to fund unsound or rapid expansion of loan and investment portfolios, which has contributed to weakened financial and liquidity positions over successive economic cycles. The overuse and failure to properly manage brokered deposits by problem institutions have contributed to bank failures and losses to the deposit insurance fund.

Examiners should consider whether an institution's policies adequately describe permissible brokered and rate-sensitive funding types, amounts, and concentration limits. Key policy considerations include procedures for assessing potential risks to earnings and capital associated with brokered and rate-sensitive deposits, and monitoring how such funds are used. Examiners should ensure management is aware of the restrictions that may apply if the institution's PCA capital category falls below well capitalized.

Examiners should determine whether management performs adequate due diligence before entering any business relationship with a deposit broker or other business partners that help provide rate-sensitive deposits, such as deposit listing services. Deposit brokers and deposit listing services are not regulated by the federal bank agencies.

While the FDI Act does not restrict the use of brokered deposits by well-capitalized institutions, the acceptance of brokered deposits by well-capitalized institutions is subject to the same considerations and concerns applicable to any type of special funding. These considerations relate to volume, availability, cost, volatility, maturity, and how the use of such special funding fits into the institution's overall liability and liquidity management plans.

When brokered deposits are encountered in an institution, examiners should consider the effect on overall funding and investment strategies and if the bank is less than well

capitalized, verify compliance with Part 337. Examiners should also consider the source, stability, and use of brokered deposits or rate sensitive funding sources that support asset growth or individual loans. Appropriate supervisory action should be considered if brokered deposits or other rate sensitive funding sources are not appropriately managed as part of an overall, prudent funding strategy. Apparent violations of Part 337 or nonconformance with the Interagency Guidelines Establishing Standards for Safety and Soundness (Appendix A to Part 364) should be discussed with management and the board of directors, and appropriately addressed in the ROE.

## Public Funds

Public funds are deposits of government entities such as state or local municipalities. Some states require institutions to secure the uninsured or entire balance of these accounts. Although various forms of collateral may be pledged, high-quality assets such as securities of U.S. government or government-sponsored enterprises (GSE) are most commonly pledged. Some institutions may also use standby letters of credit (SBLCs), such as those from one of the Federal Home Loan Banks (FHLB), to secure public funds.

The stability of public fund accounts can vary significantly due to several factors. Account balances may fluctuate due to timing differences between tax collections and expenditures, the funding of significant projects (e.g., school or hospital construction), placement requirements, and economic conditions. Placement requirements may include rotating deposits between institutions in a particular community, obtaining bids and placing funds with the highest bidder, and minimum condition standards for the institution receiving the deposits (such as specific capital levels or the absence of formal enforcement actions). Economic conditions can affect the volatility of public deposits since public entities may experience lower revenues during an economic downturn.

Although public deposit accounts often exhibit volatility, the accounts can be reasonably stable over time, or their fluctuations quite predictable. Therefore, examiners should closely review public deposit relationships to make informed judgments as to the stability of the balances.

### Securing Public Funds with SBLCs

Some financial institutions obtain SBLCs as a supplemental funding source to accommodate public depositors, derivative counterparties, and corporate borrowing needs. Typically, institutions obtain SBLCs from their district FHLB to support uninsured public deposits and secure them with eligible loans and securities.

The SBLC guarantees that the issuer will pay the beneficiary on demand if the institution fails or otherwise defaults on its obligation. When used judiciously, these standby credit facilities can complement a diversified funds management program and serve as a practical, cost-effective solution for securing a financial institution's obligations.

Certain state laws require public deposits from state, county, and municipal authorities be protected by federal deposit insurance; a pledge of obligations issued by the U.S. Treasury, U.S. government agencies, or state and local governments; or an SBLC issued by an FHLB. Some institutions prefer to obtain an SBLC rather than pledge government securities because of the standby facility's cost and balance sheet efficiency. FHLBs will accept a variety of loans and securities as collateral subject to certain collateral requirements, or "haircuts."

Similar to FHLB advances or other secured borrowings, SBLCs require collateral. Most institutions depend on eligible loans or securities as collateral. To maximize balance sheet efficiency, institutions frequently secure SBLCs with loans because they would otherwise use unencumbered securities to directly meet pledging requirements (especially for uninsured public deposits). While secured borrowings are a widely accepted form of funding that can be performed in a safe and sound manner, undiversified reliance on secured borrowings or less stable funding can sometimes result in strained liquidity. Funding diversification is important in the case of large-scale secured borrowing programs which can encumber assets that would otherwise be eligible for pledging or conversion to cash. Importantly, funding risk does not arise because of the type of secured borrowing conducted (i.e., FHLB advances or SBLCs); rather, it centers on the extent of borrowing, leveraging previously unencumbered assets, and over-reliance on non-core sources to achieve growth or earnings targets.

SBLCs are generally only exercised by public depositors if the institution fails to fund a withdrawal. If an institution does not have sufficient unencumbered liquid assets to meet a withdrawal request, it may seek a new FHLB advance and contemporaneously cancel or reduce the SBLC. The assets used to collateralize the SBLC would secure at least part of the new advance, depending on the FHLB's revised collateral terms. The FHLB can require additional collateral, possession of collateral, or limits on availability if it views an institution as troubled.

Examiners should recognize that SBLCs may present challenges in times of stress, particularly when an institution's borrowing capacity may be constrained by a large volume of pledged loans and securities. SBLCs encumber assets eligible for FHLB collateral at the time of

commitment and throughout the instrument's life, meaning that pledged assets will not be as readily convertible to cash or available to use as collateral for additional borrowings. Further, if an institution's asset quality or financial condition deteriorates, the FHLB may demand more rigorous terms or additional collateral. This may occur precisely when an institution has a heightened need for on-balance sheet liquidity.

Liquidity reviews during examinations should consider the potential impact of standby credit facilities on liquidity and funds management, asset encumbrance, and the protection of uninsured public deposits. Examiners should identify SBLC or other credit facilities that require pledged collateral, followed by a review of related documentation and financial reporting. If an institution relies significantly on wholesale borrowings (such as FHLB advances and SBLCs) to fund its balance sheet, examiners should analyze how asset encumbrances might impair liquidity in a stress scenario and whether these issues are appropriately addressed in the CFP.

### Secured and Preferred Deposits

Institutions are usually required to pledge securities (or other readily marketable assets) to cover secured and preferred deposits. Institutions must secure U.S. government deposits, and many states require banks to secure public funds, trust accounts, and bankruptcy court funds. In addition to strict regulatory and bookkeeping controls associated with pledging requirements, institutions often establish monitoring controls to ensure deposits and pledged assets are appropriately considered in their liquidity analysis. Accurate accounting for secured or preferred liabilities is also important if an institution fails, because secured depositors and creditors may gain immediate access to some of the institution's most liquid assets.

### Large Depositors and Deposit Concentrations

For examination purposes, a large depositor is a customer or entity that owns or controls 2 percent or more of the bank's total deposits. Some large deposits remain relatively stable over long periods. However, due to the effect the loss of a large deposit account could have on an institution's overall funding position, these deposits are considered to be potentially less stable liabilities.

A large deposit account might be considered stable if the customer has ownership in the institution, has maintained a long-term relationship with the bank, has numerous accounts, or uses multiple bank services. Conversely, a large depositor that receives a high deposit rate, but maintains no other relationships with the institution, may

move the account quickly if the rate is no longer considered high for the market. Therefore, examiners should consider the overall relationship between customers and the institution when assessing the stability of large deposits.

Examiners should consider whether institutions actively monitor the stability of large deposits and maintain funds management policies and strategies that reflect consideration of potentially volatile concentrations and significant deposits that mature simultaneously. Key considerations include potential cash flow fluctuations, pledging requirements, affiliated relationships, and the narrow interest spreads that may be associated with large deposits.

### Negotiable Certificates of Deposit

Negotiable CDs warrant special attention as a component of large (uninsured) deposits. These instruments are usually issued by large regional or money center banks in denominations of \$1 million or more and may be issued at face value with a stated rate of interest or at a discount similar to U.S. Treasury bills. Major bank CDs are widely traded, may offer substantial liquidity, and are the underlying instruments for a market in financial futures. Their cost and availability are closely related to overall market conditions, and any adverse publicity involving either a particular bank or banks in general can impact the CD market. These CDs have many features similar to borrowings and can be quite volatile.

### Assessing the Stability of Funding Sources

Assessing the stability of funding sources is an essential part of liquidity risk measurement and liquidity management. Institutions may rely on a variety of funding sources, and a wide array of factors may impact the stability of those funding sources. The following factors should be considered when assessing the stability of funding sources:

- **The cost of the bank's funding sources compared to market costs and alternative funding sources:** If a bank pays significantly above local or national rates to obtain or retain deposits, the bank's deposit base may be highly cost sensitive, and depositors may be more likely to move deposits if terms become more favorable elsewhere. Examiners should determine whether the institution uses rate specials or one-time promotional offerings to obtain deposits or to retain rate-sensitive customers. Examiners should also assess how much of the deposit base consists of rate specials and determine if management measures and reports the level of such deposits.

- **Large deposit growth or large changes in deposit composition:** Strategies that rely on less stable funding sources to fund significant growth in new business lines should be carefully considered. The potential for misjudging the level of risk in new strategies is high and could be compounded with the use of volatile funding sources.
- **Stability of insured deposits and fully secured borrowings:** Insured deposits and borrowings secured by highly liquid assets are more likely to be stable than uninsured deposits or borrowings secured by non-liquid assets. Uninsured deposits should not automatically be considered volatile; however, the historical and projected stability of uninsured deposits should be assessed.
- **The current rate environment:** Depositors may be less rate sensitive in a low-rate environment due to the limited benefits (marginally higher rates) obtained by shifting deposits into longer-term investments.
- **The current business cycle:** If the national or local economy is in a downward cycle, individuals and businesses may decide to keep more cash on hand versus spending or investing it.
- **Contractual terms and conditions:** Terms and requirements related to the condition of the bank, such as the bank's PCA category, credit ratings, or capital levels can materially affect liquidity. Specific contractual terms and conditions are often associated with brokered deposits, funds from deposit listing services, correspondent bank accounts, repurchase agreements, and FHLB advances.
- **The relationship with the funding source:** Large deposits might be more stable if the deposit is difficult to move (e.g., the deposit is in a transaction account used by a payroll provider), if the depositor is an insider in the institution, or if the depositor has a long history with the institution. However, examiners should consider that depositors may withdraw funds during stress periods regardless of difficulties or the effect on the bank.

## Borrowings

Stable deposits are a key funding source for most insured depository institutions; however, institutions are becoming increasingly reliant upon borrowings and other wholesale funding sources to meet their funding needs. Borrowings include debt instruments or loans that banks obtain from other entities such as correspondent lines of credit, federal funds, and FHLB and Federal Reserve Bank advances.

Generally, examiners should view borrowings as a supplemental funding source, rather than as a replacement for core deposits. If an institution is using borrowed funds to meet contingent liquidity needs, examiners should

determine whether management understands the associated risks and has commensurate risk management practices. Effective practices typically include a comprehensive contingency funding plan that specifically addresses funding plans if the institution's financial condition or the economy deteriorates. Active and effective risk management, including funding-concentration management by size and source, can mitigate some of the risks associated with the use of borrowings.

Key considerations when assessing liquidity risks associated with borrowed funds include the following:

- Pledging assets to secure borrowings can negatively affect a bank's liquidity profile by reducing the amount of securities available for sale during periods of stress.
- Unexpected changes in market conditions can make it difficult for the bank to secure funds and manage its funding maturity structure.
- It may be more difficult to borrow funds if the institution's condition or the general economy deteriorates.
- Banks may incur relatively high costs to obtain funds and may lower credit quality standards in order to invest in higher-yielding loans and securities to cover the higher costs. If a bank incurs higher-cost liabilities to support assets already on its books, the cost of the borrowings may result in reduced or negative net income.
- Preoccupation with obtaining funds at the lowest possible cost, without proper consideration given to diversification and maturity distribution, intensifies a bank's exposure to funding concentrations and interest rate fluctuations.
- Some borrowings have embedded options that make their maturity or future interest rate uncertain. This uncertainty can increase the complexity of liquidity management and may increase future funding costs.

Common borrowing sources include:

- Federal funds purchased,
- Federal Reserve Bank facilities,
- Repurchase agreements,
- Dollar repurchase agreements,
- Bank investment contracts,
- Commercial Paper, and
- International funding sources.

## Federal Funds

Federal funds are reserves held in an institution's Federal Reserve Bank account that can be lent (sold) by institutions with excess reserves to other institutions with

an account at a Federal Reserve Bank. Institutions borrow (purchase) federal funds to meet their reserve requirements or other funding needs. Institutions rely on the Federal Reserve Bank or a correspondent bank to facilitate federal funds transactions. State non-member banks that do not maintain balances at the Federal Reserve purchase/sell federal funds through a correspondent bank.

Lending and borrowing these balances has become a convenient method for banks to avoid reserve deficiencies or invest excess reserves over a short period of time. In most instances, federal funds transactions take the form of overnight or short-term unsecured transfers of immediately available funds between banks. However, banks also enter into continuing contracts that have no set maturity but are subject to cancellation upon notice by either party to the transaction. Banks also engage in federal funds transactions of a set maturity, but these include only a small percentage of all federal funds transactions. In any event, these transactions should be supported with written verification from the lending institution.

Some institutions may access federal funds as a liability management technique to fund a rapid expansion of its loan or investment portfolios and enhance profits. In these situations, examiners should determine whether appropriate board approvals, limits, and policies are in place and should discuss with management and the board the institution's plans for developing appropriate long-term funding solutions. Liquidity risks typically decline if institutions avoid undue reliance on federal funds purchased, as the funds are usually short-term, highly credit sensitive instruments that may not be available if an institution's financial condition deteriorates.

### **Federal Reserve Bank Facilities**

The Federal Reserve Banks provide short-term collateralized credit to banks through the Federal Reserve's discount window. The discount window is available to any insured depository institution that maintains deposits subject to reserve requirements. The most common types of collateral are U.S. Treasury securities; agency, GSE, mortgage-backed, asset-backed, municipal, and corporate securities; and commercial, agricultural, consumer, residential real estate, and commercial real estate loans. Depending on the collateral type and the condition of the institution, collateral may be transferred to the Federal Reserve, held by the borrower in custody, held by a third party, or reflected by book entry.

Types of discount window credit include primary credit (generally overnight credit to meet temporary liquidity needs), secondary credit (available to institutions that do not qualify for primary credit), seasonal credit (available to

banks that demonstrate a clear seasonal pattern to deposits and assets), and emergency credit (rare circumstances).

The Federal Reserve's primary credit program was designed to ensure adequate liquidity in the banking system and is intended as a back-up of short-term funds for eligible institutions. In general, depository institutions are eligible for primary credit if they have a composite CAMELS rating of 1, 2, or 3 and are at least adequately capitalized.

Since primary credit can serve as a viable source of back-up, short-term funds, examiners should not automatically criticize the occasional use of primary credit. At the same time, over-reliance on primary credit borrowings or any one source of short-term contingency funds may indicate operational or financial difficulties. Examiners should consider whether institutions that use primary credit facilities maintain viable exit strategies.

Secondary credit is available to depository institutions that do not qualify for primary credit and is extended on a very short-term basis at a rate above the primary credit rate. This program entails a higher level of Reserve Bank administration and oversight than primary credit.

If a bank's borrowing becomes a regular occurrence, Federal Reserve Bank officials will review the purpose of the borrowing and encourage the bank to initiate a program to eliminate the need for such borrowings. Appropriate reasons for borrowing include preventing overnight overdrafts, loss of deposits or borrowed funds, unexpected loan demand, liquidity and cash flow needs, operational or computer problems, or a tightened federal funds market.

The Federal Reserve will not permit banks that are not viable to borrow at the discount window. Section 10B(b) of the Federal Reserve Act limits Reserve Bank advances to not more than 60 days in any 120-day period for undercapitalized institutions or institutions with a composite CAMELS rating of 5. This limit may be overridden only if the primary federal banking agency supervisor certifies the borrower's viability or if, following an examination of the borrower by the Federal Reserve, the Chairman of the Board certifies in writing to the Reserve Bank that the borrower is viable. These certifications may be renewed for additional 60-day periods.

### **Repurchase Agreements**

In a securities repurchase agreement (repo), an institution agrees to sell a security to a counterparty and simultaneously commits to repurchase the security at a mutually agreed upon date and price. In economic terms, a repurchase agreement is a form of secured borrowing. The



amount borrowed against the securities generally is the full market value less a reasonable discount. Typically, the securities do not physically change locations or accounting ownership; instead, the selling bank's safekeeping agent makes entries to recognize the purchasing bank's interest in the securities.

From an accounting standpoint, repurchase agreements involving securities are either reported as secured borrowings, or sales and a forward repurchase commitment based on whether the selling institution maintains control over the transferred financial asset. Generally, if the repurchase agreement both entitles and obligates the selling bank to repurchase or redeem the transferred assets from the transferee (i.e., the purchaser) the selling bank should report the transaction as a secured borrowing if various other conditions outlined in Generally Accepted Accounting Principles have been met. If the selling bank does not maintain effective control of the transferred assets according to the repurchase agreement, the transaction would be reported as a sale of the securities and a forward repurchase commitment. For further information, see the Call Report Glossary entries pertaining to Repurchase/Resale Agreements and Transfers of Financial Assets.

Examiners may encounter two types of repurchase agreements: bilateral and tri-party. Bilateral repurchase agreements involve only two parties. In tri-party repurchase agreements, an agent is involved in matching counterparties, holding the collateral, and ensuring the transactions are executed properly.

The majority of repurchase agreements mature in three months or less. One-day transactions are known as overnight repos, while transactions longer in duration are referred to as term repos. Institutions typically use repurchase agreements as short-term, relatively low cost, funding mechanisms. The interest rate paid on a repurchase agreement depends on the type of underlying collateral. In general, the higher the credit quality of the collateral and the easier the security is to deliver and hold, the lower the repo rate. Supply and demand factors for the underlying collateral also influence the repo rate.

Properly administered repurchase agreements conducted within a comprehensive asset/liability management program are not normally subject to regulatory criticism. However, repos that are inadequately controlled can expose an institution to risk of loss and may be regarded as an unsuitable investment practice. Since the fair value of the underlying security may change during the term of the transaction, both parties to a repo may experience credit exposure. Although repo market participants normally limit credit exposures by maintaining a cushion between the amount lent and the value of the underlying collateral,

and by keeping terms short to allow for redemption as necessary, it is critical to conduct a thorough credit review of repo counterparties prior to the initiation of transactions. The Policy Statement on Repurchase Agreements of Depository Institutions with Securities Dealers and Others, dated February 10, 1998, provides additional information on repurchase agreements, associated policies and procedures, credit risk management practices, and collateral management practices.

A reverse repurchase agreement, which requires the buying institution to sell back the same asset purchased, is treated as a loan for Call Report purposes. If the reverse repurchase agreement does not require the institution to resell the same, or a substantially similar, security purchased, it is reported as a purchase of the securities and a commitment to sell securities.

Reverse repos can involve unique risks and complex accounting and recordkeeping challenges, and institutions can benefit from establishing appropriate risk management policies, procedures and controls. In particular, institutions can benefit from controls when relying on reverse repos that are secured with high-risk assets. The value of the underlying assets may decline significantly in a stress event, creating an undesirable amount of exposure.

### **Dollar Repurchase Agreements**

Dollar repurchase agreements, also known as dollar repos and dollar rolls, provide financial institutions with an alternative method of borrowing against securities owned. Unlike standard repurchase agreements, dollar repos require the buyer to return substantially similar, versus identical, securities to the seller. Dealers typically offer dollar roll financing to institutions as a means of covering short positions in particular securities. Short positions arise when a dealer sells securities that it does not currently own for forward delivery. To compensate for potential costs associated with failing on a delivery, dealers are willing to offer attractive financing rates in exchange for the use of the institution's securities in covering a short position. Savings associations, which are the primary participants among financial institutions in dollar roll transactions, typically use mortgage pass through securities as collateral for the transactions.

Supervisory authorities do not normally take exception to dollar repos if the transactions are conducted for legitimate purposes and the institution has instituted appropriate controls.

## Bank Investment Contracts

A bank investment contract (BIC) is a deposit contract between a bank and a customer that permits the customer to deposit funds over a period of time and obligates the bank to repay the amounts deposited plus interest at a guaranteed rate at the end of the contract term. Contract terms vary and may include maturities ranging from six months to ten years. Occasionally, BICs have been structured as non-transferable liabilities (i.e., not saleable in a secondary market). Customers for BICs are often sponsors of employee benefit plans such as pension plans or deferred compensation plans.

Examiners should consider the volume, maturity, and cost of BIC funding in relation to the bank's other deposit and non-deposit funding sources. Examiners should also be aware of the terms and conditions of the BICs. A BIC may provide specific periods and conditions under which additional deposits or withdrawals can be made to or from such accounts. The bank's liquidity planning typically estimate cash flows from BIC funding under different interest rate scenarios.

## International Funding Sources

International funding sources exist in various forms. The most common source of funds is the Eurodollar market. Eurodollar deposits are U.S. dollar-denominated deposits taken by a bank's overseas branch or its international banking facility. Reserve requirements and deposit insurance assessments do not apply to Eurodollar deposits. The interbank market is highly volatile, and banks typically benefit from analyzing Eurodollar deposit activities within the same context as all other potentially volatile funding sources.

## Commercial Paper

Institutions can issue commercial paper to quickly raise funds from the capital markets. Commercial paper is generally a short-term, negotiable promissory note issued for short-term funding needs by a bank holding company, large commercial bank, or other large commercial business. Commercial paper usually matures in 270 days or less, is not collateralized, and is purchased by institutional investors.

Some commercial paper programs are backed by assets referred to as asset-backed commercial paper. Some programs also involve multi-seller conduits where a special-purpose entity is established to buy interests in pools of financial assets (from one or more sellers). Entities fund such purchases by selling commercial paper notes, primarily to institutional investors.

Institutions that provide liquidity lines or other forms of credit enhancement to their own or outside commercial paper programs face the risk that the facilities could be drawn upon during a crisis situation. Prudent institutions plan for such events and include such events in stress scenario analysis and contingency plans. In addition, institutions benefit from addressing the bank's ability to continue using commercial paper conduits as a funding source in the bank's contingency funding plan.

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## OFF-BALANCE SHEET ITEMS

Off-balance sheet items, such as those described below, can be a source or use of funds.

### Loan Commitments

Loan commitments are common off-balance sheet items. Typical commitments include unfunded commercial, residential, and consumer loans; unfunded lines of credit for commercial and retail customers; and fee-paid, commercial letters of credit. Sound risk management practices include closely monitoring the amount of unfunded commitments that require funding over various periods and detailing anticipated demands against unfunded commitments in internal reports and contingency plans. Examiners should consider the nature, volume, and anticipated use of the institution's loan commitments when assessing and rating the liquidity position.

### Derivatives

Financial institutions can use derivative instruments (financial contracts that generally obtain their value from underlying assets, interest rates, or financial indexes) to reduce business risks. However, like all financial instruments, derivatives contain risks that must be properly managed. For example, interest rate swaps typically involve the periodic net settlement of swap payments that can substantially affect an institution's cash flows. Additionally, derivative contracts may have initial margin requirements that require an institution to pledge cash or investment securities that reflect a specified percentage of the contract's notional value. Variation margin requirements (which may require daily or intra-day settlements to reflect changes in market value) can also affect an institution's cash flows and investment security levels. Examiners should consider the extent to which banks engaging in derivative activities understand and manage the liquidity, interest rate, and price risks of these instruments.

## Other Contingent Liabilities

Legal risks can have a significant financial impact on institutions that may affect liquidity positions. Examiners should consider whether institutions identify these contingencies when measuring and reporting liquidity risks as exposures become more certain.

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## LIQUIDITY RISK MITIGATION

There are many ways management can mitigate liquidity risk and maintain the institution's current and future liquidity positions within the risk tolerance targets established by the board. For managing routine and stressed liquidity needs, institutions typically establish diversified funding sources and maintain a cushion of high-quality liquid assets. Examiners should consider whether contingency funding plans identify back-up funding sources (and action steps to address more acute liquidity needs) and whether management tests various stress scenarios to identify risks that should be mitigated and addressed in contingency funding plans.

### Diversified Funding Sources

An important component of liquidity management is the diversification of funding sources. Undue reliance on any one source of funding can have adverse consequences in a period of liquidity stress. Banks typically diversify funding across a range of retail sources and, if utilized, across a range of wholesale sources, consistent with the institution's sophistication and complexity. Institutions that rely primarily on retail deposit accounts are generally not criticized for relying on one primary funding source. However, examiners should determine whether alternative sources are identified in formal contingency plans and periodically tested.

To reduce risks associated with funding concentrations, banks generally benefit from considering the correlations between sources of funds and market conditions and having available a variety of short-, medium-, and long-term funding sources. The board is responsible for setting and clearly articulating a bank's risk tolerance in this area through policy guidelines and limits for funding diversification.

Although banks use diversified funding sources to reduce funding concentration risks, banks also consider other factors when selecting funding sources. For example, the cost of a particular funding source is a critical consideration when developing profitability strategies. Additionally, the stability and availability of a funding source are important factors when planning for asset

growth. Examiners should carefully assess strategies that rely on less-stable funding sources, particularly strategies that fund significant growth in new business lines.

When assessing the diversification of funding sources, important factors to consider include:

- Internal evaluations of risks associated with funding sources (e.g., stress tests and diversification limits) and whether or not the evaluations are reasonable and well documented,
- Potential curtailment of funding or significantly higher funding costs during periods of stress,
- Time required to access funding in stressed and normal periods,
- Sources and uses of funds during significant growth periods, and
- Available alternatives to volatile funding sources.

Maintaining market access to funds is also an essential component of ensuring funding diversity. Market access can be critical, as it affects an institution's ability to raise new funds and to liquidate assets. Examiners should consider whether management actively manages, monitors, and tests the institution's market access to funds. Such efforts should be consistent with the institution's liquidity risk profile and sources of funding. For example, access to the capital markets is an important consideration for most large complex banks, whereas the availability of correspondent lines and other sources of wholesale funds are critical for community banks. Reputation risk plays a critical role in a bank's ability to access funds readily and at reasonable terms. For this reason, examiners should determine whether liquidity risk managers are aware of any information, such as an announcement of a decline in earnings, or a downgrade by a rating agency, that could affect perceptions of an institution's financial condition.

### The Role of Equity

Issuing new equity is often a relatively slow and costly way to raise funds and should not be viewed as an immediate or direct source of liquidity. However, to the extent that a strong capital position helps an institution quickly obtain additional debt and economically raise funds, issuing equity can be considered a liquidity facilitator.

### Cushion of Highly Liquid Assets

One of the most important components of an institution's ability to effectively respond to liquidity stress is the availability of unencumbered, highly liquid assets (i.e., assets free from legal, regulatory, or operational impediments). Unencumbered liquid assets can be sold or

pledged to obtain funds under a range of stress scenarios. The quality of the assets is a critical consideration, as it significantly affects a bank's ability to sell or pledge the assets in times of stress.

When determining what type of assets to hold for contingent liquidity purposes, management typically considers factors such as:

- **Level of credit and market risk:** Assets with lower levels of credit and market risk tend to have higher liquidity profiles.
- **Liquidity during stress events:** High-quality liquid assets are generally not subject to significantly increased risk during stress events. Conversely, certain assets, such as specialty assets with small markets or assets from industries experiencing stress, are often less liquid in times of stress in the banking sector.
- **Ease and certainty of valuation:** Prices based on trades in sizeable and active markets tend to be more reliable, and an asset's liquidity increases if market participants are more likely to agree on its valuation. Formula-based pricing is less desirable than data from recent trades. If used, the pricing formula should be easy to calculate, based on active trades, and not depend heavily on assumptions or modeled prices. The inputs into the pricing formula should also be publicly available.

Institutions with high quality liquid assets are generally able to monetize the assets through the sale of the assets or the use of secured borrowings. This generally means an institution's cushion of liquid assets is concentrated in due from accounts, federal funds sold, and high-quality assets, such as U.S. Treasury securities or GSE bonds.

Occasionally, it may be appropriate to consider pledged assets as part of the highly liquid cushion, such as when a bank pledges Treasury notes as part of an unfunded line of credit. In other instances, it may be appropriate to consider an asset that has not been explicitly pledged as illiquid. For example, if an institution is required to deposit funds at a correspondent institution to facilitate operational services, it should generally exclude these funds from its liquidity reports, or denote them separately as unavailable.

Examiners should assess whether the size of the institution's liquid asset cushion is aligned with its risk tolerance and profile, and is supported by documented analysis and stress test results. Factors that may indicate a need to maintain a higher liquid asset buffer include:

- Easy customer access to alternative investments,

- Recent trends showing substantial reductions in large liability accounts,
- Significant volumes of less-stable funding,
- High levels of assets with limited marketability (due to credit quality issues or other factors),
- Expectations of elevated draws on unused lines of credit or loan commitments,
- A concentration of credit to an industry with existing or anticipated financial problems,
- Close ties between deposit accounts and employers experiencing financial problems,
- A significant volume of assets are pledged to wholesale borrowings, and
- Impaired access to funds from capital markets.

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## CONTINGENCY FUNDING

### Contingency Funding Plans

All financial institutions, regardless of size or complexity, benefit from a formal contingency funding plan (CFP) that clearly defines strategies for addressing liquidity shortfalls in emergency situations. Comprehensive CFPs delineate policies to manage a range of stress environments, establish clear lines of responsibility, and articulate clear implementation and escalation procedures. The reliability of a CFP improves if it is regularly tested and updated to ensure that it is operationally sound. Often, financial institutions coordinate liquidity risk management plans with disaster, contingency, and business planning efforts, as well as with business line and risk management objectives, strategies, and tactics.

While CFPs should be tailored to the business model, risk, and complexity of the individual institution, most CFPs require management to:

- Establish a liquidity event-management framework (including points of contact and public relation plans),
- Establish a monitoring framework,
- Identify potential contingent funding events,
- Identify potential funding sources,
- Require stress testing, and
- Require periodic testing of the CFP framework.

### Contingent Funding Events

The primary goals of most CFPs are to identify risks from contingent funding events and establish an operational framework to deal with those risks. Contingent funding events are often managed based on their probability of occurrence and potential effect. CFPs generally focus on events that, while relatively infrequent, could have a high-

impact on the bank's operations. Appropriate plans typically set a course of action to identify, manage, and control all significant contingent funding risks.

Stress factors that may provide early warning signs for identifying potential funding risks can be institution-specific or systemic and may involve one or more of the following:

- Deterioration in asset quality,
- Downgrades in credit ratings,
- Downgrades in PCA capital category,
- Deterioration in the liquidity management function,
- Widening of credit default spreads,
- Operating losses,
- Rapid growth,
- Inability to fund asset growth,
- Inability to renew or replace maturing funding liabilities,
- Price volatility or changes in the market value of various assets,
- Negative press coverage,
- Declining institution equity prices,
- Deterioration in economic conditions or market perceptions,
- Disruptions in the financial markets, and
- General or sector-specific market disruptions (e.g., payment systems or capital markets).

Stress events can also be caused by counterparties (both credit and non-credit exposures). For example, if a bank sells financial assets to correspondent banks for securitization and its primary correspondent exits the market, the bank may need to use a contingent funding source.

Comprehensive CFPs identify institution-specific events that may impact on- and off-balance sheet cash flows given the specific balance-sheet structure, business lines, and organizational structure. For example, institutions that securitize loans have CFPs that consider a stress event where the institution loses access to the market but must still honor its commitments to customers to extend loans.

Comprehensive CFPs also delineate various stages and severity levels for each potential contingent liquidity event. For example, asset quality can deteriorate incrementally and have various levels of severity, such as less than satisfactory, deficient, and critically deficient. The CFPs also address the timing and severity levels of temporary, intermediate-term, and long-term disruptions. For example, a natural disaster may cause temporary disruptions to payment systems, while deficient asset quality may occur over a longer term. Institutions can then

use the stages or severity levels identified to establish various stress test scenarios and early-warning indicators.

### Stress Testing Liquidity Risk Exposure

After identifying potential stress events, institutions often implement quantitative projections, such as stress tests, to assess the liquidity risk posed by the potential events. Stress testing helps the institution better understand the vulnerability of certain funding sources to various risks and helps to determine when and how to access alternative funding sources. Stress testing also helps institutions identify methods for rapid and effective responses, guide crisis management planning, and determine how large of a liquidity buffer should be maintained. Generally, the magnitude and frequency of stress testing is commensurate with the complexity of the financial institution and the level of its risk exposures.

Liquidity stress tests are typically based on existing cash-flow projections that are appropriately modified to reflect potential stress events (institution-specific or market-wide) across multiple time horizons. Stress tests are used to identify and quantify potential risks and to analyze possible effects on the institution's cash flows, liquidity position, profitability, and solvency. For instance, during a crisis an institution's liquidity needs can quickly escalate while liquidity sources can decline (e.g., customers may withdraw uninsured deposits, or lines of credit may be reduced or canceled). Stress testing allows an institution to evaluate the possible impact of these events and plan accordingly.

Examiners should review documented assumptions regarding the cash flows used in stress test scenarios and consider whether they incorporate:

- Customer behaviors (early deposit withdrawals, renewal/run-off of loans, exercising options);
- Prepayments on loans and mortgage-backed securities;
- Seasonality (public-fund fluctuations, agricultural credits, construction lending); and
- Various time horizons.

Effective assumptions generally incorporate both contractual and non-contractual behavioral cash flows, including the possibility of funds being withdrawn. Examples of non-contractual funding requirements that may occur during a financial crisis include supporting auction rate securities, money market funds, commercial paper programs, and structured investment vehicles. Institutions may be compelled to financially bolster shortfalls in money market funds or asset-backed paper that does not sell or roll due to market stress, and assets

may be taken on balance sheet from sponsored off-balance sheet vehicles. While this financial support is not contractually required, institutions may determine that the negative press and reputation risks outweigh the costs of providing the financial support.

Effective stress testing generally assesses various stress levels and stages ranging from low- to severe-stress scenarios. To establish appropriate stress scenarios, management may use the different stages and severity levels that the institution assigned to stress events. For example, a low-stress scenario may include several events identified as low severity, while a severe stress scenario may combine several high-severity events. A severe stress scenario may include severe declines in asset quality, financial condition, and PCA category.

Management's active involvement and support is critical to the effectiveness of the stress testing process. Stress test results are typically discussed with the board, and when appropriate, management takes remedial actions to limit the institution's exposures, build up a liquidity cushion, and/or adjust its liquidity profile to fit its risk tolerance. In some situations, institutions may adjust the bank's business strategy to mitigate a contingent funding exposure.

### **Potential Funding Sources**

Identification of potential funding sources for shortfalls resulting from stress scenarios is a key component of adequate contingency funding plans. Banks generally identify alternative funding sources and ensure ready access to the funds. The most important and reliable funding source is a cushion of highly liquid assets. Other common contingent funding sources include the sale or securitization of assets, repurchase agreements, FHLB borrowings, or borrowings through the Federal Reserve discount window. However, in a stress event, many of these liquidity sources may become unavailable or cost prohibitive. Therefore, effective stress tests typically assess the availability of contingent funding in stress scenarios.

Institutions that rely on unsecured borrowings for contingency funding normally consider how borrowing capacity may be affected by an institution-specific or market-wide disruption. Institutions that rely upon secured funding sources for contingency funding also consider whether they may be subject to higher margin or collateral requirements in certain stress scenarios. Higher margin or collateral requirements may be triggered by the deterioration in the institution's overall financial condition or in a specific portfolio.

Potential collateral values are also normally subjected to stress tests because devaluations or market uncertainties could reduce the amount of contingent funding available from a pledged asset. Similarly, stress tests often consider correlation risk when evaluating margin and collateral requirements. For example, if an institution relies on its loan portfolio for contingent liquidity, a stress test may assess the effects of poor asset quality. If loans previously securitized were of poor credit quality, the market value and collateral value of current and future loans originated by the bank could be significantly reduced.

### **Monitoring Framework for Stress Events**

Early identification of liquidity stress events is critical to implementing an effective response. The early recognition of potential events allows the institution to position itself into progressive states of readiness as an event evolves, while providing a framework to report or communicate within the institution and to outside parties. As a result, effective CFPs typically identify early warning signs that are tailored to the institution's specific risk profile. The CFPs also establish a monitoring framework and responsibilities for monitoring identified risk factors.

Early warning indicators may be classified by management as early-stage, low-severity, or moderate-severity stress events and include factors such as:

- Decreased credit-line availability from correspondent institutions,
- Demands for collateral or higher collateral requirements from counterparties that provide credit to the institution,
- Cancellation of loan commitments or the non-renewal of maturing loans from counterparties that provide credit to the institution,
- Decreased availability of warehouse financing for mortgage banking operations,
- Increased trading of the institution's debt, or
- Unwillingness of counterparties or brokers to participate in unsecured or long-term transactions.

### **Testing of Contingency Funding Plans**

Institutions periodically test and update the CFP to assess the plan's reliability under times of stress. Generally, management tests contingent funding sources at least annually. Testing may include both drawing on a contingent borrowing line and operational testing. Operational testing is often designed to ensure that:

- Roles and responsibilities are up to date and appropriate,

- Legal and operational documents are current and appropriate,
- Cash and collateral can be moved where and when needed, and
- Contingent liquidity lines are available.

Effective CFP testing typically includes periodically testing the operational elements associated with accessing contingent-funding sources. The tests help ensure funds are available when needed. For example, there may be extended time constraints for establishing lines with the Federal Reserve or FHLB, and often, the lines are set up in advance to establish availability and to limit the time required to pledge assets and draw on lines. However, examiners should understand that establishing lines in advance and testing the lines does not guarantee funding sources will be available within the same time frames or on the same terms during stress events.

In addition, institutions can benefit by employing operational CFP simulations to test communications, coordination, and decision making involving managers with different responsibilities, in different geographic locations, or at different operating subsidiaries. Simulations or tests run late in the day can highlight specific problems such as difficulty in selling assets or borrowing new funds at a time when the capital markets may be less active. The complexity of these tests can range from a simple communication and access test for a non-complex bank or can include multiple tests throughout the day to assess the timing of funds access.

### Liquidity Event Management Processes

In a contingent liquidity event, it is critical that management's response be timely, effective, and coordinated. Therefore, comprehensive CFPs provide for a dedicated crisis management team and administrative structure, and include realistic action plans to execute the various elements of the plan for various levels of stress. The CFPs establish clear lines of authority and reporting by defining responsibilities and decision-making authority. The CFPs also address the need for more frequent communication and reporting among team members, the board of directors, and other affected parties. Critical liquidity events may also require the daily computation of regular liquidity risk reports and supplemental information, and comprehensive CFPs provide for more frequent and more detailed reporting as the stress situation intensifies.

The reputation of an institution is a critical asset when a liquidity crisis occurs, and proactive institutions maintain plans (including public relations plans) to help preserve their reputations in periods of perceived stress. Failure to

appropriately manage reputation risk could cause severe damage to an institution.

And finally, comprehensive CFPs also address effective communication with key stakeholders, such as counterparties, credit-rating agencies, and customers. Smaller institutions that rarely interact with the media may benefit from having plans in place for how they will manage press inquiries and training front-line employees on how to respond to customer questions.

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### INTERNAL CONTROLS

Adequate internal controls are integral to ensuring the integrity of an institution's liquidity risk management process. An effective system of internal controls promotes effective operations, reliable financial and regulatory reporting, and compliance with relevant laws and institutional policies. Effective internal control systems are designed to ensure that approval processes and board limits are followed and any exceptions to policies are quickly reported to, and promptly addressed by, senior management and the board.

### Independent Reviews

A key internal control involves having an independent party regularly evaluate the various components of the liquidity risk management process. A review typically assesses the effectiveness of liquidity risk management programs, taking into account the complexity of the institution's liquidity risk profile. Institutions may achieve independence by assigning this responsibility to the audit function or other qualified individuals independent of the risk management process. To facilitate the independence of the review process, reviewers typically report key issues requiring attention (including instances of noncompliance with laws and regulations or the institution's policies) to the ALCO and audit committee for prompt action.

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### EVALUATION OF LIQUIDITY

#### Liquidity Component Review

Under the *Uniform Financial Institutions Rating System*, a financial institution's liquidity position should be evaluated based on the current level and prospective sources of liquidity compared to funding needs, as well as the adequacy of funds management practices relative to the institution's size, complexity, and risk profile.

In general, funds 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 banking 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 maintained at a high cost, or through undue reliance on funding sources that may not be available in times of financial stress or adverse changes in market conditions.

Liquidity is rated based upon, but not limited to, an assessment of the following evaluation factors:

- The adequacy of liquidity sources compared to present and future needs and the ability of the institution to meet liquidity needs without adversely affecting its operations or condition.
- The availability of assets readily convertible to cash without undue loss.
- Access to money markets and other sources of funding.
- The level of diversification of funding sources, both on- and off-balance sheet.
- The degree of reliance on short-term volatile funding sources (including borrowings and brokered deposits), to fund longer-term assets.
- The trend and stability of deposits.
- The ability to securitize and sell certain pools of assets.
- The capability of management to properly identify, measure, monitor, and control the institution's liquidity position, including the effectiveness of funds management strategies, liquidity policies, management information systems, and contingency funding plans.

### **Rating the Liquidity Factor**

A rating of 1 indicates strong liquidity levels and well-developed funds management practices. The institution has reliable access to sufficient sources of funds on favorable terms to meet present and anticipated liquidity needs.

A rating of 2 indicates satisfactory liquidity levels and funds management practices. The institution has access to sufficient sources of funds on acceptable terms to meet present and anticipated liquidity needs. Modest weaknesses may be evident in funds management practices.

A rating of 3 indicates liquidity levels or funds management practices in need of improvement. Institutions rated 3 may lack ready access to funds on reasonable terms or may evidence significant weaknesses in funds management practices.

A rating of 4 indicates deficient liquidity levels or inadequate funds management practices. Institutions rated 4 may not have or be able to obtain a sufficient volume of funds on reasonable terms to meet liquidity needs.

A rating of 5 indicates liquidity levels or funds management practices so critically deficient that the continued viability of the institution is threatened. Institutions rated 5 require immediate external financial assistance to meet maturing obligations or other liquidity needs.

### **UBPR Ratio Analysis**

The UBPR is an important analytical tool that shows the impact of management's decisions and economic conditions on a bank's earnings performance and balance sheet composition. Examiners should review UBPR ratios when analyzing the institution's liquidity position. UBPR ratios should be viewed in concert with the institution's internal liquidity ratios on a level and trend basis when assessing the liquidity position. Examiners should use caution when reviewing peer group ratios as the comparisons may not be meaningful due to the varying liquidity and funding needs of different institutions.

Some of the more common ratios that examiners should review include:

- Net Non-Core Funding Dependence,
- Net Loans and Leases to Deposits,
- Net Loans and Leases to Total Assets,
- Short-Term Assets to Short-Term Liabilities,
- Pledged Securities to Total Securities,
- Brokered Deposits to Deposits, and
- Core Deposits to Total Assets.

Examiners should recognize that UBPR liquidity ratio analysis might not provide an accurate picture of the institution's liquidity position. Examiners should consider the quality, stability, and unique characteristics of asset and liability accounts before analyzing liquidity ratios. In particular, loans, securities, deposits, and borrowings should be evaluated before using UBPR ratios to draw conclusions concerning the liquidity position.