← INTRODUCTION

Liquidity is the ability to meet cash and collateral obligations at a reasonable cost. Maintaining an adequate level of liquidity helps ensure the institution's ability to efficiently meet both expected and unexpected cash flow and collateral needs without adversely affecting the institution's operations or financial condition. Liquidity is essential 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 involves management estimating and planning for liquidity demands over various periods and considering how funding requirements may evolve under various scenarios, including adverse conditions. This planning includes identifying and maintaining sufficient levels of cash, liquid assets, and accessible 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, including failure, for an institution despite strong capital and profitability levels. Therefore, it is critically important that management implement and 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, management:

- Establishes an appropriate liquidity risk management program,
- Ensures adequate resources are available to fund ongoing liquidity needs,
- Establishes a funding structure commensurate with the institution's risk profile,
- Evaluates exposures to contingent liquidity events, and
- Ensures sufficient resources are available to meet contingent liquidity needs.

← RISK MANAGEMENT PROGRAM

An institution's liquidity risk management program establishes the liquidity management framework. Comprehensive and effective programs encompass all elements of an institution's liquidity, ranging from how management 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;
- A diverse mix of existing and potential funding sources;
- Comprehensive and actionable contingency funding plans;
- Appropriate plans for potential stress events; and
- Effective internal controls and independent reviews.

The formality and sophistication of effective liquidity management programs are commensurate with the institution's complexity, risk profile, and scope of operations, 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 less stable 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 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;
- Authorizes an asset/liability management level committee (ALCO), or similar committee, to perform

specific tasks and to oversee liquidity and funds management, and reviews the minutes of the ALCO;
- 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 evaluate whether the ALCO (or similar committee) actively monitors the institution's liquidity profile. Effective ALCOs have representation across major functions (e.g., lending, investments, wholesale and retail funding) that may 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 involves short- and long-term strategies that can change over time, especially during times of stress. Therefore, the institution's 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:

- 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

Financial assets are a key funding source, as they can generate substantial cash inflows through principal and interest payments. Financial assets can also provide funds when sold or when used as collateral for borrowings. Management routinely pledges assets when borrowing funds or obtaining credit lines from the Federal Home Loan Bank (FHLB), the Federal Reserve discount window, or other institutions.

Collateral management is the practice of identifying and managing the institution's assets that may be pledged as collateral to another party. An effective collateral management program aids in monetizing (i.e. converting to cash via collateralized borrowing) potentially less liquid assets for use in conducting payments, funding loans, or satisfying deposit withdrawals.

Characteristics of an effective collateral management system may include the ability to:

- Identify and track the movement of pledged collateral, including the entity to which the collateral is pledged, the entity that has custody of the collateral, and unencumbered available collateral, at the individual instrument level.
- Have a centralized view into all pledged collateral, including the value of collateral pledged relative to the amount required and the availability of unencumbered collateral by type and amount.
- Manage collateral positions to avoid accidental double encumbrance. Typically, each funds provider would need to release or subordinate its lien before another counterparty will advance secured credit (examiners should recognize that providers of funds on a secured basis, such as the FHLB and Federal Reserve, do not share collateral or liens on an institution's pledged assets).
- Identify all borrowing agreements (contractual or otherwise) that may require the institution to provide additional collateral, substitute existing collateral, or deliver collateral, such as requirements that may be triggered by changes in an institution's financial condition.
- Monitor the change in market value, credit quality, and performance of collateral instruments so as to be able to anticipate and meet calls for additional collateral.

Smaller institutions or those with limited amounts of borrowings may be able to adequately manage collateral needs through manual processes and monitor collateral levels by reviewing monthly or quarterly reports. Larger institutions; those with material payment, settlement, and clearing activities; or those more active in using secured financing (e.g. repurchase agreements, public deposits, or FHLB borrowings) will benefit from actively monitoring short- (including intraday), medium-, and long-term collateral positions and may engage in a practice known as collateral optimization.

During a liquidity stress event, management's ability to respond quickly to emergency funding needs is critical and may depend on the quality and effectiveness of the pledged collateral reporting and tracking systems. In practice, demands for collateral must often be met within just a few hours. In order to meet the timeliness requirements, an institution may pledge cash or readily available highly liquid investment securities, such as U.S. Treasuries. However, given more time, it may be able to substitute less liquid instruments and return the more liquid instruments to available inventory. The practice of replacing previously pledged collateral with less liquid collateral that will still be deemed acceptable by the secured party is known as collateral optimization. This activity increases an institution's ability to rapidly obtain funding from its more liquid collateral, but also requires more advanced management and reporting systems.

Examiners should determine whether the institution has collateral management and reporting systems that are commensurate with the institution's funding structure, potential borrowing needs, and overall risk profile, including determining whether reporting systems facilitate the monitoring and management of assets pledged and of assets that can be pledged as collateral for borrowed funds. This determination includes reviewing collateral tracking or pledged asset reports.

Examiners should also determine whether management:

- Considers potential changes to collateral requirements in cash flow projections, stress tests, and contingency funding plans; and
- Understands the operational and timing requirements associated with accessing collateral (such as at a custodian institution or a securities settlement location where the collateral is held).

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POLICIES, PROCEDURES, AND REPORTING

Liquidity Policies and Procedures

Comprehensive written policies, procedures, and risk limits form the basis of liquidity risk management programs. All 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, each institution's board has a legal responsibility to maintain policies, procedures, and risk limits tailored to its individual institution's risk profile. And each institution's board is responsible for ensuring that the structure, responsibility, and controls for managing the institution's liquidity risk are clearly documented. To fulfill its oversight responsibilities, a prudent board regularly monitors reports that highlight institution-specific liquidity factors.

Boards that review and approve liquidity policies at least annually ensure such policies remain relevant and appropriate for the institution's 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. The ALCO policies 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 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, trend, and concentration of large deposits, public funds, out-of-area deposits, uninsured deposits, potentially rate-sensitive deposits, and wholesale deposits, including brokered and other deposits received through third-party arrangements;
- 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 institution'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 a range of 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 policies, procedures, and risk limits;
- Include a contingency funding plan (CFP) that identifies alternate funding sources if liquidity projections are incorrect or a liquidity crisis arises and describes potential stress scenarios;
- Require periodic testing of borrowing lines and consider operational impediments to implementing the CFP;
- 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 and for verifying, and positioning, unencumbered collateral;
- 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 institution.

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 risk 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 (e.g., liquid assets to total assets, cash and confirmed borrowing capacity to uninsured deposits).
- Limits on potentially unstable liabilities;
- Concentration limits on assets that may be difficult to convert into cash (such as complex financial instruments, depreciated securities, 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 by tenor, source, and type;
- 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, as well as the appropriateness and promptness of corrective actions in response to these exceptions, are typically noted in board or committee minutes.

Liquidity Reporting

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

Examiners should assess liquidity reporting procedures. Typically, institution 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 may receive liquidity risk reports monthly or quarterly. Depending on the complexity of business activities and the liquidity risk profile, institutions may need to 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 institution 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 and funds providers (lienholders), 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 or signs of increasing liquidity pressure;
- Conformance with policy risk limits and the status of policy exceptions;
- Interest rate projections and economic conditions in the institution's trade area;
- Information concerning non-relationship or higher cost funding programs;
- The stability of deposit customers, providers of wholesale funds (including brokered deposits), and other deposits received through third-party arrangements;
- The level of highly liquid assets;
- Stress test results; and
- Other items unique to the institution.

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LIQUIDITY RISK MEASUREMENT

To identify potential funding gaps, management typically monitors cash flows, assesses the stability of funding sources, and projects future funding needs. When assessing an institution's liquidity rating, examiners should evaluate an institution's liquidity risk measurement and monitoring procedures.

Pro Forma Cash Flow Projections

Historically, most 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 institutions' liquidity analysis. However, cash flow forecasting can enhance an institution's ability to monitor and manage liquidity risk.

Cash flow forecasts can be useful for all institutions and become essential when operational areas (e.g., loans, deposits, investments) are complex or managed separately from other areas. 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 also provide options for modeling liquidity cash flows because the base information is already maintained for IRR modeling. When reviewing liquidity risk models, examiners should verify that management compares funding sources and uses over various periods and that modeling assumptions are appropriate for evaluating liquidity risk rather than IRR.

Cash flow projections typically forecast funding sources and uses over short-, medium-, and long-term time horizons. Non-complex community institutions that are in 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 intraday measurements. All institutions can 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 institution'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 using 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 management uses when projecting cash flows. Reliability is enhanced when projections are based on reasonable assumptions and reliable data. Additionally, the accuracy and reliability of cash flow projections are enhanced when projected cash flows consider contractual and expected cash flows. For example, the accuracy of cash flow projections for construction loans is enhanced when management estimates the amount of available credit that will be drawn in a given period rather than including the full amount of

contractual obligations. Additionally, forecasts for maturing time deposits, particularly those obtained through special rate promotions, can be enhanced if the analysis considers the probable retention rate of maturing deposits.

Modeling assumptions play a critical role in projecting cash flows and measuring liquidity risks. 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 liquidity scenarios. Accurate and reliable cash flow forecasting can benefit institutions by identifying liquidity risks.

Back Testing

The reliability of cash flow projections may also be enhanced if management evaluates assumptions about customer behavior, separately estimates gross cash flows on both sides of the balance sheet, and compares 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 to develop CFPs. Management typically starts 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 the Prompt Corrective Action (PCA) capital category that triggered interest rate restrictions and brokered deposit limitations, it is appropriate for management to adjust assumptions to reflect the possible limitation or elimination of access to affected funding sources. Management typically uses the stress testing results in developing funding plans to mitigate these risks, including determining appropriate amounts for – or sizing – the liquidity buffer and contingent borrowing lines.

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FUNDING SOURCES - ASSETS

The amount of liquid assets that an institution maintains is generally a function of the stability of its funding structure, the risk characteristics of its 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 in base case and in various stress scenarios remain stable, established borrowing facilities have been operationalized and are largely unused, and other risk characteristics are predictable. A higher level of unencumbered liquid assets may be required if:

- Institution customers have numerous alternative investment options,
- Recent trends show a substantial reduction in large liability accounts,
- The institution has a material reliance on potentially less stable funding sources, such as large, uninsured deposits,
- The loan portfolio includes a high volume of non-marketable loans,
- The institution 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,
- The institution's access to capital markets is impaired,
- Stress testing results indicate the need for increased levels of unencumbered, liquid assets, or
- The institution is experiencing financial duress.

An institution'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 typically weighs 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 management 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. Management relies on cash and due from accounts to fund deposit account withdrawals (particularly in stress situations), disburse loan proceeds, cover cash letters, fund operations, meet reserve requirements when applicable, and facilitate correspondent transactions.

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 FHLB advances. If asset quality issues exist, management 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 or because of market volatility that affects the value of the loan collateral. These "haircuts" can be substantial and are an important consideration in stress tests.

Comprehensive liquidity analysis considers 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. Examiners should determine whether management's loan cash flow assumptions are supported by historical data.

Asset Sales and 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 for the institution. However, for an asset to be saleable at a reasonable price in the secondary market, it will generally have to 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, management would 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 with 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 institutions. 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 is legally obligated to begin paying principal to bondholders earlier than originally anticipated and fund new receivables that would have otherwise been transferred to the trust. Institutions involved in securitizations benefit from monitoring asset performance to better anticipate the cash flow and funding ramifications of 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 institution'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 establish conditions to achieve sales treatment of 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, management must account for, and risk weight, the transferred financial assets as if the transfer had not occurred. Accordingly, management should continue to report the transferred assets in financial statements with no change in the measurement of the transferred financial assets.

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 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. This implicit recourse may create credit, liquidity, and regulatory capital implications for issuers that provide 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.

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 investment portfolio to determine:

- The level of unencumbered securities available to pledge for borrowings,
- The financial impact of unrealized holding 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 secured borrowings.

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FUNDING SOURCES - LIABILITIES

Deposits are the most common funding source for most 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 (e.g., retail, commercial, and municipal).

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 their 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), non-transaction other savings deposits (excluding MMDAs), and time deposits of $250,000 and below, less fully insured brokered deposits of $250,000 and less. However, 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.

In some instances, core deposits included in the UPBR'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, given the lack of direct relationship and motivation of such depositors seeking competitive rates. As another example, transactional account deposits

brought to the institution through an arrangement with a third party (whether a broker-dealer, financial technology firm, reciprocal network, or other third party) and which may qualify for an exception from brokered deposit treatment, may also be less stable as movement of such deposits is often controlled by a third party. Management and examiners should not automatically view "core" 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. However, while some deposit relationships over $250,000 remain stable when the institution is in good condition, such relationships, because of their uninsured status, might become less stable 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 management identifies deposit accounts likely to be unstable in times of stress and appropriately evaluates these deposits in its liquidity stress testing and in determining the adequacy of the liquidity buffer.

Deposit Management Programs

The critical role deposits play in an institution'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 institution 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 institution's service area and capital markets in general.

Effective deposit management programs are monitored and adjusted as necessary. The long-term 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 accounts (e.g., stable, fluctuating, seasonal, brokered).

Wholesale Funds

Wholesale funds include, but are not limited to, brokered deposits, deposits obtained through programs marketed by third parties (such as a broker-dealer, financial technology firm, reciprocal network, or other third party) even though not defined or reported as 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 and may require more comprehensive scenario modeling. In addition, contingency planning and capital management take on added significance for institutions that rely heavily on wholesale funding.

Brokered and Higher Rate Deposits

Section 29 of the FDI Act establishes certain brokered deposit restrictions on institutions that are not well capitalized. Section 337.6 of the FDIC Rules and Regulations implements Section 29 and 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 institutions or the business of placing deposits with insured depository institutions for the purpose of selling interests in those deposits to third parties; and an agent or trustee who establishes a deposit account to facilitate a business arrangement with an insured depository institution to use the proceeds of the account to fund a prearranged loan.

Section 337.6 exempts from the deposit broker definition third parties that have exclusive deposit relationships with only one institution and defines relevant terms, including "placing," "facilitating," "engaged in the business of placing deposits," "engaged in the business of facilitating the placement of deposits," and "engaged in the business." Refer to section 337.6(a)(5)(i)-(iv) for these definitions. The rule excludes an entity with a "primary purpose exception" from the deposit broker definition.

Even if a third party would otherwise fit the definition of a "deposit broker," the brokered deposit statute and regulation provide nine statutory exceptions and one additional regulatory exception to this definition of deposit broker (refer to section 337.6(a)(5)(v)). Certain business relationships are designated as meeting the primary purpose exception (PPE). Institutions and non-bank third parties may also request a PPE for a particular business line that does not meet one of the designated exceptions by filing an application with the FDIC under Section 303.243(b) of the FDIC Rules and Regulations.

Primary Purpose Exceptions (PPE)

The PPE applies when, with respect to a particular business line, the primary purpose of the agent's or nominee's business relationship with its customers is not the placement of funds with insured depository institutions.

The revised rule designates 14 business relationships as meeting the PPE. In December 2021, the FDIC designated an additional business line as qualifying for a PPE (refer to 87 FR 1065). Whether an agent or nominee qualifies for the PPE is based on analysis of the agent's or nominee's relationship with those customers, most of which an institution may rely upon without notice to the FDIC. However, as discussed below, a third party, or an institution filing on behalf of a third party, must provide the FDIC with a written notice that the third party will rely on a designated business exception described in Section 337.6(a)(5)(v)(I)(1)(i)-(ii) of the FDIC Rules and Regulations. In addition, for business relationships that are not identified as a designated business exception, an agent or nominee (or an institution on its behalf) may submit a written application and receive approval from the FDIC to qualify for a PPE as described in Section 337.6(a)(5)(v)(I)(2). Specific requirements related to PPE filings are addressed in Section 303.243(b).

The two designated business relationship PPEs requiring a notice to the FDIC are:

- The "25 percent test," where less than 25 percent of the total assets that the agent or nominee has under administration for its customers is placed at depository institutions; and
- "Enabling transactions," where 100 percent of funds that the agent or nominee places, or assists in placing, at depository institutions are placed into transactional accounts that do not pay any fees, interest, or other remuneration to the underlying depositor.

The FDIC may, with notice, revoke a PPE of a third party if:

- The third party no longer meets the criteria for a designated exception;
- The notice or subsequent reporting is inaccurate; or
- The notice filer fails to submit required reports.[1]

Involvement of Additional Third Parties

An institution that receives deposits from an unaffiliated third party with a PPE for a particular business line must determine whether there are any additional third parties involved in the deposit placement arrangement that qualify as a deposit broker, because the institution is responsible for accurately reporting the deposits on its Call Report. If an additional third party is involved that would qualify as a "deposit broker" under 12 CFR § 337.6(a)(5), for example if the additional third party is engaging in "matchmaking activities" under 12 CFR § 337.6(a)(5)(iii)(C), then the deposits received from that arrangement must be reported as a brokered deposit by the institution, even if the unaffiliated third party has a primary purpose exception for the relevant business line. Note that even when the sweep

[1] Filers that submit a notice under the "25 percent" test must provide *quarterly* updates; filers that submit a notice under the "enabling transactions" test must provide an *annual* certification.

deposits are placed by the third party directly, the IDI must consider whether an additional third party may be "facilitating the placement of the deposits."

For example, the FDIC has received PPE notice filings from broker dealers asserting that an additional third party involved in the unaffiliated sweep program provides the broker dealers with "administrative services." It has been the FDIC's experience that such services include activities that meet the facilitation part of the deposit broker definition, for example by engaging in matchmaking activities. When receiving sweep deposits under such an arrangement, it is the institution's responsibility to evaluate the third party's role and determine whether that role constitutes facilitating the placement of deposits, including by engaging in matchmaking activities, when it files its Call Report.

During examinations, examiners should determine whether institutions are relying upon PPEs to except certain deposits involving third parties and assess the institution's Call Report filing documentation supporting the institution's reliance on the PPE.

Listing Services

A listing service is a company that compiles information about the interest rates offered by institutions on deposit products. A particular company can be a listing service (compiler of information) as well as a deposit broker (facilitating the placement of deposits). Whether a listing service, or a similar service that posts information about deposit rates, is a deposit broker will likely depend on whether the service meets the criteria under the "facilitation" part of the deposit broker definition. Based on the "facilitation" definition, a listing service that passively posts rate information and sends trade confirmations between the depositor and the institution is unlikely to be a deposit broker. However, if a listing service provides services that meet one of the three prongs of the "facilitation" definition, then it would be considered a deposit broker.

Sweep Accounts

Some brokerage firms and investment companies that invest money in stocks, bonds, and other investments on behalf of clients operate sweep programs in which 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 PPE.

Sweep accounts that rely on the PPE must fit a designated exception from the definition of deposit broker. The entity will qualify for the "25 percent test" designated exception if it is in a business relationship where, with respect to a particular business line, less than 25 percent of the total assets that the entity has under administration for its customers is placed at depository institutions and where the entity has filed a notice with the FDIC. The entity may also rely on another exception from the definition of deposit broker for which it qualifies.

Network and Reciprocal Deposits

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

Some networks establish reciprocal agreements allowing participating institutions to send and receive deposits with the same maturity (if any) and in the same aggregate amount simultaneously. This reciprocal agreement allows institutions to maintain the same volume of funds they had when the customer made the initial deposit, while providing participating customers with deposits in excess of the $250,000 deposit insurance limit additional deposit insurance through placement at other insured depository institutions. While reciprocal deposits meet the definition of a brokered deposit, under certain conditions a limited amount of reciprocal deposits may be excluded from treatment and reporting as brokered deposits.

Section 29(i) of the FDI Act (implemented through Section 337.6(e) of the FDIC Rules and Regulations) excludes 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[2]; or

[2] As noted under "Brokered Deposit Restrictions," if an institution 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.

- 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 (i.e., well rated) and are well capitalized, or are adequately capitalized and have obtained a brokered deposit waiver, are subject to the general cap, and therefore would report and treat the amount of reciprocals 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, are subject to the special cap. Agent institutions subject to the special cap also can report and treat the amount of reciprocal deposits that exceed the general cap as brokered deposits. However, if after an agent institution becomes subject to the special cap, it receives an amount of reciprocal deposits that causes the total amount of reciprocal deposits held by it to be greater than its special cap, it is no longer an agent institution. If an institution is not an agent institution, all of its reciprocal deposits are to be treated and reported as brokered deposits.

Agent institutions that become subject to the special cap may retain agent status even if their pre-existing reciprocal deposits equal or exceed the special cap, as long as they do not receive any reciprocal deposits after they have become subject to the special cap. Consider the following illustration:

- 03/31/Y3: Bank A is well rated and well capitalized, and reports $100 million in total reciprocal deposits on Call Report Schedule RC-E. Since the general cap is $90 million (the lesser of $5 billion or 20 percent of total liabilities), Bank A reports $10 million as brokered reciprocal deposits on Call Report Schedule RC-O.

- 05/15/Y3: Total reciprocal deposits have increased to $110 million, though the general cap remained at $90 million. On this date, Bank A receives notice from its primary federal regulator that its composite rating has been downgraded to less than well rated (below a 2), signifying that the institution was no longer in outstanding or good condition; the bank is still Well Capitalized for PCA purposes. As of this date, Bank A becomes subject to the special cap, which is $80 million (the average of total reciprocal deposits reported on the Call Reports for the quarters ending 03/31/Y3, 12/31/Y2, 09/30/Y2, and 06/30/Y2).

- 06/30/Y3 Call Report scenarios (assume that the special cap is lower than the general cap):

  - If Bank A does not receive additional reciprocal deposits after 05/15/Y3, the institution retains agent status and may treat $90 million as non-brokered under the general cap. Bank A reports total reciprocal deposits of $110 million on Schedule RC-E, and $20 million as brokered reciprocal deposits on Schedule RC-O.

  - If Bank A receives additional reciprocal deposits in any amount after 05/15/Y3, it loses agent status, and all of its reciprocal deposits ($110 million) must be reported as brokered on Schedules RC-E and RC-O.

Examiners should determine whether an institution's reciprocal deposits are being reported appropriately on its Call Report and in conformance with the statutory and regulatory definitions under Section 29(i) of the FDI Act and Section 337.6(e) of the FDIC Rules and Regulations.

Network member institutions 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

Pursuant to Section 29 of the FDI Act and Section 337.6 of the FDIC Rules and Regulations, an institution that is less than well capitalized for the purposes of PCA is restricted from accepting, renewing, or rolling over brokered deposits. Well capitalized institutions may accept, renew, or roll over brokered deposits at any time. An adequately capitalized

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 institution may not accept, renew, or roll over any brokered deposit (refer to Section 337.6(b)(3)). If an institution 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, examiners should not only verify compliance, but also assess whether the waiver has contributed to an increasing risk profile.

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 institutions that are less than well capitalized. Deposit rate restrictions prevent an institution 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.

Section 29's implementing regulation, Section 337.7 of the FDIC Rules and Regulations, contains two interest rate restrictions, one based on when funds are accepted by an institution, the other on when an institution solicits deposits. One restriction provides that an adequately capitalized institution accepting reciprocal deposits, or brokered deposits pursuant to a waiver granted under Section 29(c) of the FDI Act, may not pay a rate of interest that, at the time the funds are *accepted*, significantly exceeds the following: (1) The rate paid on deposits of similar maturity in such institution's normal market area for deposits accepted in the institution's normal market area; or (2) the national rate paid on deposits of comparable maturity, as established by the FDIC, for deposits accepted outside the institution's normal market area. The other interest rate restriction prohibits a less than well capitalized institution from *soliciting* any deposits by offering a rate of interest that is significantly higher than the prevailing rate.

The national rate for each deposit product is defined as the average of rates paid by all insured depository institutions and credit unions for which data is available, with rates weighted by each institution's share of domestic deposits. The national rate cap is calculated as the higher of: (1) the national rate plus 75 basis points; or (2) 120 percent of the current yield on similar maturity U.S. Treasury obligations plus 75 basis points. The national rate cap for nonmaturity deposits is the higher of the national rate plus 75 basis points or the federal funds rate plus 75 basis points. The national rates and national rate caps are published monthly on the FDIC's public website.

Section 337.7 provides a simplified process for institutions that seek to offer a competitive rate when the prevailing rate in an institution's local market area exceeds the national rate cap. The local rate cap for a less than well capitalized institution is 90 percent of the highest interest rate paid in the institution's local market area on a particular deposit product by a bank or credit union accepting deposits at a physical location within the institution's local market area. The local market area is any readily defined geographic market in which the institution accepts or solicits deposits.

Under Section 337.7(d), a less than well capitalized institution that seeks to pay a rate of interest up to its local market rate cap must provide notice to the appropriate FDIC regional director. The notice must include evidence of the highest rate paid on a particular deposit product in the institution's local market area. The institution must:

- Update its evidence and calculations monthly for both existing and new accounts, unless otherwise instructed by the FDIC;
- Maintain records of the rate calculations for at least the two most recent examination cycles; and
- Upon the FDIC's request, provide the documentation to the appropriate FDIC regional office and to examination staff during any subsequent examinations.

Additionally, institutions are not permitted to interpolate or extrapolate interest rates for products with off-tenor maturities. If an institution seeks to offer a product with an off-tenor maturity that is not offered by another institution within its local market area, or for which the FDIC does not publish the national rate cap, the institution is to use the rate offered on the next lower on-tenor maturity for that deposit product when determining its applicable national or local rate cap, respectively. For example, an institution seeking to offer a 26-month certificate of deposit (CD), and such product is not offered by other institutions in the trade area, must use the rate offered for a 24-month CD to determine the applicable national or local rate cap.

An adequately capitalized institution that accepts nonmaturity brokered deposits subject to waiver, with respect to a particular deposit broker, is subject to the applicable interest rate cap on:

- Any new nonmaturity accounts opened by or through that particular deposit broker;

- An amount of funds that exceeds the amount(s) in the account(s) that, at the time the institution fell to less than well capitalized, had been opened by or through the particular deposit broker; or
- For agency or nominee accounts, any funds for a new depositor credited to a nonmaturity account or accounts.

Refer to the interest rate restrictions in Section 337.7 for specific information, including the solicitation and acceptance of nonmaturity deposits. Examiners should review conformance with interest rate restrictions during examinations of institutions that are not well capitalized. While the FDIC may grant a brokered deposit waiver to a less than well capitalized institution to retain brokered deposits, 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 institutions 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 institutions have contributed to 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, reciprocal, and rate-sensitive deposits, and monitoring how such funds are used. Examiners should verify whether 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 third-party business partners that help provide rate-sensitive deposits, such as deposit listing services.

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 institution 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 and appropriately addressed in the report of examination.

Uninsured Deposits

Uninsured deposits can be part of a diversified funding program and, depending on an institution's funds management objectives and strategy, these deposits may be gathered from a number of retail, commercial, municipal, institutional, and wholesale sources. Nevertheless, uninsured deposits can exhibit sudden instability when an institution experiences financial problems, adverse media attention, or curtailment by funding counterparties. The level and characteristics of uninsured deposits, as well as the institution's risk profile, are factors that can affect their stability and are important for management to understand to properly assess liquidity risk.

While the duration, number of accounts, or use of multiple services in the deposit relationship may result in more stable deposit balances in a business-as-usual scenario, such extended relationships may only have a modest effect in tempering flight risk during a stress event.

For institutions facing financial distress, uninsured deposit accounts whose average balances are considerably higher than the insurance limit may behave differently (i.e., are more prone to runoff) than those with average deposit balances only marginally above the insurance limit. Additionally, non-retail uninsured deposits are likely to be more sensitive and reactive to signs of serious financial distress than uninsured retail accounts.

An institution's overall risk profile can also influence the behavior of customers with uninsured deposits. The uninsured deposits of institutions materially involved in activities perceived as riskier (e.g., higher-risk Acquisition, Development, or Construction lending, or third party deposit gathering) may exhibit a greater propensity to runoff during stress. Furthermore, institutions, with a concentration in uninsured deposits can be exposed to increased deposit withdrawals during a stress event.

Prudent management teams consider the degree of exposure to uninsured deposits for individual customers and in aggregate. Prudent management will also consider potential runoff risk when deriving liquidity stress testing assumptions and when determining an appropriately sized liquid asset buffer and sources of contingent funding.

Public Funds

Public funds are deposits of government entities such as states, counties, or local municipalities. In many cases, public deposits are large and exceed the FDIC's deposit insurance coverage limit. Some states require institutions to secure only the uninsured portion of public deposits, while others require the entire balance of these accounts to be secured. State laws typically require funds to be secured by high-quality assets such as securities of U.S. government or government-sponsored enterprises (GSE), a committed standby letter of credit (SBLC) from an FHLB, or a state-sponsored pooled collateral program that protects the uninsured portion of public deposits.

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 review public deposit relationships to make informed judgments as to their stability.

Securing Public Funds

In addition to securing public funds with pledged high-quality assets, two other common arrangements include SBLCs and state pooled collateral programs. 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 the SBLCs 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 an institution's obligations.

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 employed 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 stems from the volume of borrowing, leveraging previously unencumbered assets, and overreliance 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.

Some states have adopted pooled collateral programs through the respective state treasurer to centralize and streamline collateral management for public deposits. Participating institutions allocate high quality securities to a pool of collateral rather than pledging individual securities against a specific public deposit.

The programs facilitate public deposit placement in the participating states, and some institutions participate in multiple state programs where they have branches. Similar to the SBLCs used to secure uninsured public deposits, the state pool model consumes less of participating institutions' collateral on a percentage basis than if an individual

institution were to pledge securities directly. Pledging requirements for each state program vary significantly, with some programs requiring collateral to cover as little as 25% of the uninsured deposit placement. Most programs include periodic monitoring of the financial condition of participants and increase collateral requirements in the event an institution encounters financial stress.

Some of the programs include collective liability of participating institutions. Collective liability means that if a participating member fails and its collateral pledged is insufficient to make public depositors whole, each participating institution is obligated to proportionately share the cost of the collateral shortfall.

Examiners should recognize that SBLCs and pooled collateral programs 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. Similarly, assets pledged under pooled collateral programs 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 and state-sponsored pooled collateral programs 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 and state-sponsored pooled collateral programs on liquidity and funds management, asset encumbrance, and the protection of uninsured public deposits. Examiners should identify SBLCs, other credit facilities, and pooled collateral programs that require pledged collateral and review 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

Preferred deposits are deposits of U.S. states and political subdivisions that are secured or collateralized as required under state law. Only the uninsured amount of such deposits are considered preferred. 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 institutions 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 two percent or more of the institution'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 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 institution, has numerous accounts, or uses multiple 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 management actively monitors the stability of large deposits and maintains funds management policies and strategies that reflect consideration of potentially less stable 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 institution or institutions in general can

impact the CD market. These CDs have many features similar to borrowings and can be quite volatile.

Borrowings

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

Generally, borrowings are viewed as a supplemental funding source rather than as a replacement for 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 CFP 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 borrowings.

To make effective use of borrowing facilities, knowledgeable risk managers seek to understand the conditions, limitations, and potential drawbacks of borrowing from different sources and facilities. Additionally, effective managers understand and monitor borrowing capacity, terms, acceptable collateral, and collateral borrowing values (e.g., collateral haircuts). They maintain a detailed inventory of pledged assets posted to various funds providers and know their remaining capacity to post additional unencumbered assets to execute borrowings quickly. Effective managers are also aware of the execution constraints that may arise when attempting to borrow at the end of a business day or week and ensure CFPs acknowledge these constraints.

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

- Pledging assets to secure borrowings can negatively affect an institution'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 management 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.
- Management 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 an institution 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 an institution'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 Reserve Bank facilities,
- Federal Home Loan Bank advances,
- Federal funds purchased,
- Repurchase agreements,
- Dollar repurchase agreements,
- Commercial paper, and
- International funding sources.

Federal Reserve Bank Facilities

The Federal Reserve Banks provide short-term collateralized credit to institutions 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. Collateral pledged to the discount window cannot be shared with other funding providers. Therefore, an important consideration for management is whether collateral is pre-positioned or pre-pledged to another entity and the operational requirements, including timeframes, to transfer the pledging to the Federal Reserve in a timely manner to obtain funding when needed.

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 institutions 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 backup, short-term credit facility 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 under the PCA framework.

Since primary credit can serve as a viable source of backup, short-term funds, examiners should not automatically criticize the occasional use of primary credit. At the same time, overreliance 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 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 an institution's borrowing becomes a regular occurrence, Federal Reserve Bank officials will review the purpose of the borrowing and encourage management 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. Accordingly, well-managed financial institutions develop longer-term funding or take-out alternatives to transition from reliance on the discount window. These alternatives can include FHLB advances, deposit gathering strategies, and other contingency funding options.

Examiners should be aware that the Federal Reserve will not permit institutions 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 of Governors of the Federal Reserve certifies in writing to the Reserve Bank that the borrower is viable. These certifications may be renewed for additional 60-day periods.

Federal Home Loan Bank (FHLB) Advances

The FHLBs provide secured loans or "advances" to their members, which include insured depository institutions. Many well-performing institutions use FHLB advances to prudently address funds management needs, facilitate credit intermediation, and supplement contingent funding sources. FHLB borrowings are secured by eligible collateral according to each FHLB district's credit policy and generally include certain real estate-related loans and securities. Institutions can borrow from the FHLBs on a short- and longer-term basis, with maturities ranging from overnight to 30 years on various repayment, amortization, and interest rate terms.

Each FHLB establishes credit and collateral policies that set the terms for member advances. Interest rates and collateral requirements may be subject to a member institution's financial condition or other prudential considerations. Although the FHLBs serve as a reliable source of funding for members, certain eligibility requirements for advances have been set by the Federal Housing Finance Agency (FHFA), the FHLB System's supervisor. For example, the FHFA regulations (12 CFR 1266.4) prohibit FHLBs from making new advances to members without positive tangible capital, among other requirements. Therefore, effectively managed FHLB members consider their continuing eligibility to borrow as part of funds management and contingency funding strategies.

Examiners should analyze several factors when reviewing an institution's use of FHLB advances. Foremost among these factors, FHLBs may impose strict collateral and borrowing capacity requirements for the quality of pledged assets, collateral margins, loan documentation, and maximum advance levels. Changes in a member institution's financial condition can also impact its ability and cost to borrow. In addition, collateral pledged to an FHLB cannot be readily shared with other funds providers, such as the Federal Reserve's discount window, and it could take time to reassign that collateral to another lender. Examiners should assess whether institutions have considered these requirements as part of their overall funds management process and CFP.

Examiners should also consider an institution's use of FHLB advances in terms of overall wholesale funding usage (versus stable deposit funding), leverage, and balance sheet management. In certain circumstances, an institution can become over-leveraged with wholesale funds or collateral encumbrance, which could impact liquidity, earnings, and other measureable areas of performance.

Examiners should review the institution's analysis of FHLB borrowing capacity in the event of severe market stress. "The role of the FHLBanks in providing secured advances

must be distinguished from the Federal Reserve's financing facilities, which are set up to provide emergency financing for troubled financial institutions confronted with immediate liquidity challenges. Due to operational and financing limitations of the market intermediation process, the FHLBanks cannot functionally serve as the lender of last resort, particularly for large, troubled members that can have significant borrowing needs over a short period of time."[3] In certain instances, the FHLBs may have their own liquidity capacity limitation on a given business day if unexpectedly large advance requests are made from multiple members. Therefore, institutions should have an appropriate level of unencumbered on-balance liquid assets and CFP strategies that enable borrowing from other sources such as the Federal Reserve's discount window.

Federal Funds Purchased

Federal funds are reserves held in an institution's Federal Reserve Bank account (during periods when Federal Reserve requirements are warranted) 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 institution to facilitate federal funds transactions. State nonmember institutions that do not maintain balances at the Federal Reserve purchase or sell federal funds through a correspondent institution.

In most instances, federal funds transactions take the form of overnight or short-term unsecured transfers of immediately available funds between institutions. However, institutions also enter into continuing contracts that have no set maturity but are subject to cancellation upon notice by either party to the transaction. Institutions 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 can 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 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 their plans for developing appropriate long-term funding solutions. Liquidity risks typically decline if management avoids overreliance on federal funds purchased, as the funds are usually short-term, highly credit sensitive instruments that may not be available if the institution's financial condition deteriorates.

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 repo is a form of secured borrowing. The amount borrowed against the security is generally the full market value less a reasonable discount. Typically, the security does not physically change locations or accounting ownership; instead, the selling institution's safekeeping agent makes entries to recognize the purchasing institution's interest in the security.

From an accounting standpoint, repos involving securities are either reported as secured borrowings or as sales and a forward repurchase commitment based on whether the selling institution maintains control over the transferred financial asset. Generally, if the repo both entitles and obligates the selling institution to repurchase or redeem the transferred assets from the transferee (i.e., the purchaser) the selling institution may report the transaction as a secured borrowing if various other conditions outlined in U.S. Generally Accepted Accounting Principles (GAAP) have been met. If the selling institution 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.

Bilateral repos involve only two parties, and are most commonly conducted with either a primary dealer bank or a central counterparty. In a tri-party repo, an agent is involved in matching counterparties, holding the collateral, and ensuring the transactions are executed properly. Like bilateral repos, the terms of tri-party repos are negotiated by the collateral provider and the cash investor. Once the terms are established, the settlement details are transmitted to the clearing institution, which confirms the terms and settles the transaction on its books for the two parties. In deep stress, the traditional tri-party repo market may close to the cash borrower as counterparties may no longer negotiate with the cash borrower and may not roll maturing contracts or enter into new contracts.

[3] See *FHLBank System at 100: Focusing on the Future*, at https://www.fhfa.gov/AboutUs/Reports/ReportDocuments/FHLBank-System-at-100-Report.pdf.

The General Collateral Finance (GCF) Repo market removes for cash lenders the counterparty credit exposure present in the bilateral and triparty repo markets. The GCF market is a brokered and centrally cleared market – with the Fixed Income Clearing Corporation (FICC) being the central counterparty. GCF trades are negotiated through interdealer brokers (IDBs) on a blind basis. In other words, participants provide an IDB the terms under which they are willing to borrow or lend cash. The IDB then tries to broker a trade while maintaining each participant's anonymity. Once a trade has been brokered, the IDB submits the details to FICC, which substitutes itself as the counterparty to each side of the repo transaction.

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 repos 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.

There are also timing considerations in settling repo transactions. The centrally cleared contracts, including GCF transactions, clear earlier in the day and the tri-party market clears later in the day. The quality of collateral also affects the timing of tri-party repos. Since riskier collateral can only be accepted by some subset of all market participants, cash borrowers offering lower quality collateral tend to arrange trades earlier in the day to allow for ample market participation. Repo borrowing programs that are inadequately managed may result in a loss of essential funding at a critical time.

The opposite side of a repo transaction, is sometimes called a reverse repo. A reverse repo that 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 security and a commitment to sell the security.

Reverse repos can involve unique risks and complex accounting and recordkeeping challenges, and institutions 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. Reverse repo activity exposes the institution to a risk of loss if the cash lent exceeds the market value of the security received as collateral, and the value of the underlying assets may decline significantly in a stress event, creating an undesirable amount of exposure. Reverse repos/cash lending programs that are inadequately managed 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, credit reviews of repo counterparties prior to the initiation of transactions remains a critical step. Properly administered repurchase agreements conducted within a comprehensive asset/liability management program are not normally subject to regulatory criticism. The Policy Statement on Repurchase Agreements of Depository Institutions with Securities Dealers and Others, dated February 10, 1998, provides additional information on repos, associated policies and procedures, credit risk management practices, and collateral management practices.

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 appropriate controls.

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 an institution'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 management typically benefits from analyzing Eurodollar deposit activities within the same context as all other potentially less stable 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 institution, 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 and are 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 institution's ability to continue using commercial paper conduits as a funding source in the institution's CFP.

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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

Management 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 intraday 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 management engaging in derivative activities understands and manages 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 ANALYSIS AND MITIGATION

There are many ways management can analyze and 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 CFPs identify backup funding sources, action steps to address acute liquidity needs, and whether management tests various stress scenarios to identify risks to mitigate and address in CFPs.

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 management'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 such as credit or market risk. 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.

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 cash and due from accounts, federal funds sold, and high-quality assets, such as U.S. Treasury securities or GSE bonds. However, with digital banking and social media, severe liquidity stress can transpire in as little as a few hours. Because severe stress can occur so rapidly, cash and cash equivalents are an essential component of the liquidity cushion.

Cash remains the most liquid asset. Hence, appropriate cash cushions can help to meet liquidity requirements until asset sales or borrowings can be executed. If institutions change the mix of their pool of liquid assets by substituting out cash for other types of liquid assets (e.g., during a period of rising interest rates when the opportunity cost of holding cash increases), effective management will be able to demonstrate that it can readily monetize these assets to meet stressed needs for liquidity without undue losses that impact the institution's financial condition.

The ability of management to monetize marketable securities or access secured borrowing lines without delay can be critical in times of stress. Access to unencumbered liquid assets is critical, where such assets are easy to sell or pledge with little or no discount throughout an interest rate or credit cycle. Unrealized holding losses in liquid securities portfolios, however, reduce amounts that can be monetized by means of sale or pledging as collateral against borrowings.

Occasionally, it may be appropriate for examiners to consider pledged assets as part of the highly liquid cushion, such as when management pledges Treasury notes as part of an unfunded line of credit. In other instances, it may be appropriate for examiners 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, these funds should generally be excluded from its liquidity reports or denoted as unavailable.

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

Evaluation of Asset Encumbrance

Asset encumbrance is another important consideration of liquidity risk management. Assets typically become encumbered when they are pledged against borrowings, SBLCs, or public deposits or could be considered restricted even though there is no explicit pledge agreement as described earlier. Examiners should understand, and assess management's understanding of, the dynamics of asset encumbrance and the triggers and requirements of the products and programs that are used to manage liquidity and collateral positions.

In a favorable economic environment, profitable, well-capitalized institutions generally have a wide capacity to borrow and can obtain secured borrowings with a pledge of loans or securities. In some cases, management provides a blanket lien on the institution's mortgage loans and other assets to secure credit. When asset quality and on-balance sheet liquidity are strong, secured borrowings and other arrangements can be reliable and cost-effective.

In the event of asset quality or other financial deterioration, secured creditors often seek to protect their position by increasing collateral requirements. These collateral calls typically lead to increases in asset encumbrance at a time when the institution has elevated funding needs to address losses and other outflows. Therefore, asset encumbrance is a critical consideration for examiners when assessing an institution's scenario testing and CFP.

In addition to traditional secured borrowings, two examples of arrangements that could lead to elevated collateral requirements during financial stress include SBLCs and state pooled collateral programs. Management can use SBLCs for a variety of purposes, such as securing public deposits, accommodating derivative counterparties, and corporate borrowing needs. Typically SBLCs are secured with eligible loans and securities. If asset quality declines or the institution's financial condition deteriorates, the SBLC could be exercised and effectively convert to a borrowing, thereby increasing collateral encumbrance at a time when the institution may have identified FHLB borrowings as a contingent source to address other funding gaps.

Under the state-sponsored pooled collateral model, participating institutions pledge securities to a pool that is coordinated by state finance officials to collateralize multiple public deposits. In these programs, the states monitor the financial condition of participants and increase collateral requirements if the institution's financial condition deteriorates.

For institutions that pledge assets for secured borrowings and for those that use SBLCs or pooled collateral systems for managing uninsured public deposits, examiners should assess whether stress testing scenarios consider the potential for increased collateral requirements. Examiners should also determine whether the analysis includes assets that may be restricted but not explicitly pledged. Potential asset encumbrances under a stress scenario (to cover heightened collateral calls for borrowings and any public deposit arrangements or similar agreements) are typically incorporated into the CFP.

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. Management typically diversifies funding across a range of retail sources and, if used, across a range of wholesale sources, consistent with the institution's sophistication and complexity. Institutions that rely primarily on directly gathered retail deposit accounts are generally not criticized for relying on one primary funding source. However, examiners should consider whether alternative sources are identified in formal CFPs and periodically tested.

To reduce risks associated with funding concentrations, management generally benefits 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 an institution's risk tolerance in this area through policy guidelines and limits for funding diversification.

Although management uses diversified funding sources to reduce funding concentration risks, management also considers 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 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 for examiners to consider include:

- Internal evaluations of risks associated with funding sources (e.g., stress tests and diversification limits) and whether 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 are typically 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 or complex institutions, whereas the availability of correspondent lines and other sources of wholesale funds are critical for community institutions. Market perceptions play a critical role in an institution'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.

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. Some of the primary factors that examiners should consider when assessing the stability of funding sources include:

- **The cost of the institution's funding sources compared to market costs and alternative funding sources:** If an institution pays significantly above local or national rates to obtain or retain deposits, the institution'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 management 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 whether management measures and reports the level of such deposits.
- **Large deposit growth or significant changes in deposit composition:** Examiners should carefully consider strategies that rely on less stable funding sources to fund significant growth in new business lines. The level of risk in new strategies can be misjudged and could be compounded by the use of less stable funding sources.
- **Stability of insured deposits:** Insured deposits can be a stable, low-cost form of funding depending on an institution's depositor base; client relationships across credit, deposit, and other financial products; the tenure of the deposit relationship; and the sensitivity of depositors to interest rates, the institution's condition, adverse media attention, and counterparty and market participants' views toward the institution.
- **Stability of uninsured deposits:** Uninsured deposits are not automatically considered volatile; however, in times of stress or when an institution's condition deteriorates, uninsured depositors are more likely to withdraw their funds. Therefore, examiners should closely review large volumes of uninsured deposits, along with their risk characteristics, including concentrations of large individual depositors, as well as depositors' potential behavior in stressed environments.
- **Secured borrowings and asset encumbrance:** Secured borrowing can be a stable source of funding depending on the institution's condition and quality of collateral that can be pledged. Well-performing institutions can often obtain secured credit from the Federal Reserve's discount window, the FHLB, or other providers by pledging eligible loans and securities.
- **The current rate environment:** Depositors may be less rate sensitive in a low-rate environment due to the limited benefits (only 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 rather than spending or investing.
- **Contractual terms and conditions:** Terms and requirements related to the institution's condition, such as its 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 institution 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 administrative difficulties or the effect on the institution.

Intraday Liquidity Monitoring

Intraday liquidity monitoring is an important component of liquidity risk management. It is important for an institution to manage, and understand its potential intraday liquidity needs associated with wholesale payments and trading activity, including derivative positions. While most community institutions do not experience significant wholesale payments inflows and outflows, operate trading accounts, or have large derivative positions and settlement risk, some use derivatives to hedge interest rate risk exposure that can require an intraday use of liquidity to collateralize a position.

For example, as part of a derivatives transaction, an institution may be required to submit either initial or maintenance/variation margin associated with the contract on a given business day by a specific time. Even though the institution could be "in the money" (meaning it has a net positive exposure to the dealer counterparty) and expect a net liquidity inflow, the derivative contract could require a short-term or intraday cash payment. The institution's payment could occur before the counterparty remits its

payment, creating a timing difference and potential short-term or intraday liquidity need. Also, institutions that conduct wholesale payments over a large value payment system[4] could encounter situations that result in intraday cash deficits, such as if expected payments receipts are throttled/slowed by senders concerned about the institution's financial condition (and the risk of having a large intraday loan to the institution) but the institution is unable to throttle outgoing payments in a similar manner, in turn potentially causing daylight overdrafts[5] in excess of the regular net debit cap. The Federal Reserve may provide credit to support potential intraday mismatches, but there may also be limits on the institution's ability to access this support.

The Role of Equity

Issuing new equity is often a relatively slow and costly way to raise funds and is not viewed as an immediate or direct source of liquidity. However, to the extent that a strong capital position helps an institution quickly obtain funds at a reasonable cost, issuing equity can be considered a liquidity facilitator. For institutions with a holding company, cash can be injected from the parent in the form of equity, ideally tier 1 capital.

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CONTINGENCY FUNDING

Contingency Funding Plans

All institutions, regardless of size or complexity, benefit from a formal 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, management coordinates liquidity risk management plans with disaster, contingency, and business planning efforts and aligns them with business line and risk management objectives, strategies, and tactics.

CFPs are tailored to the business model, risk, and complexity of the individual institution. Such CFPs:

- Establish a liquidity event management framework (including points of contact and public relations 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 institution's operations. Appropriate plans typically set a course of action to identify, manage, and control 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,
- Declining institution or holding company stock prices,
- High put-call ratios (i.e., high put volume relative to call volume) or increases in the volume of short selling,
- Operating losses,
- Rapid growth,
- Inability to fund asset growth,
- Inability to renew or replace maturing liabilities,
- Price volatility or changes in the market value of various assets,
- Negative press coverage, including social media channels,
- Anticipation of a significant negative reaction to an investor earnings call,
- Deterioration in economic conditions or market perceptions,
- Disruptions in the financial markets,

[4] Retail payments often are not time sensitive and commonly occur within batch processing cycles through the ACH payments system. Wholesale payments conducted via wire transfers over Fedwire or CHIPS are more likely to be pre-scheduled and time-sensitive.

[5] A daylight overdraft occurs when funds in an institution's Federal Reserve account balance is insufficient to cover outgoing transactions, for example, Fedwire funds transfers or incoming securities or other payment activity processed by a Federal Reserve Bank, such as check or automated clearinghouse (ACH) transactions. For more information, refer to the "Guide to the Federal Reserve's Payment System Risk Policy on Intraday Credit" effective January 20, 2022

- General or sector-specific market disruptions (e.g., payment systems or capital markets), and
- Competitor or peer institutions experiencing liquidity duress with the potential for spillover effects or contagion risk spreading to the subject institution.

Counterparties can also cause stress events (both credit and non-credit exposures). For example, if an institution sells financial assets to correspondent institutions for securitization, and its primary correspondent exits the market, the institution may need to use a contingent funding source.

Institutions with unrealized holding losses on debt securities should fully understand potential restrictions that could be imposed by the FHLB and other institutional counterparties (e.g., public depositors, deposit brokers, and listing and registry services) should the unrealized losses affect certain capital measures, such as GAAP equity. These restrictions may include a curtailment of new advances or placements (based on law or policy) at institutions that report a low or negative GAAP equity position.

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 still has to 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. 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, management often implements quantitative projections, such as stress tests, to assess the liquidity risk posed by the potential events. Stress testing helps management understand the vulnerability of certain funding sources to various risks and to determine when and how to access alternative funding sources. Stress testing also helps management identify methods for rapid and effective responses, guide crisis management planning, and determine an appropriate liquidity buffer.

Generally, the magnitude and frequency of stress testing is commensurate with the complexity of the institution, as well as the level and trend of its liquidity risk. If liquidity risk becomes elevated, management could benefit from conducting more frequent stress testing, while large or complex institutions may also benefit from daily liquidity stress testing to inform, in part, day-to-day liquidity management.

The growing prevalence of digital banking and online banking applications has facilitated 24/7 banking. These innovations, in addition to the influence of social media, can accelerate and intensify liquidity risk due to deposit runs and contagion. A comprehensive CFP reflects this risk and could include within the suite of stress scenarios an end-of-day or end-of-week stress scenario with severe deposit run-off occurring in hours or minutes as opposed to days or weeks. For example, the modeling and testing of a severe stress event that begins on a Friday afternoon may expose vulnerabilities in the ability to execute a CFP (e.g., the ability to quickly monetize unencumbered collateral and execute on borrowing lines) that would not be identified in longer-duration scenarios.

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 draw down borrowing lines, or the institution's lines of credit may be reduced or canceled). Stress testing allows an institution to evaluate the possible impact of these events and to 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 and run-off of loans, exercising options);
- Significant runoff of surge, uninsured, or volatile deposits;
- Prepayments on loans and mortgage-backed securities;
- Curtailment of committed borrowing lines;
- Material reduction in asset values;
- Regulatory restrictions on brokered deposits or interest rates paid on deposits;
- Significant changes in market interest rates;
- 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, special purpose vehicles, and structured investment vehicles. Institutions may be compelled to financially support 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, management 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 assigns 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 tie a sharp change in interest rates with asset quality deterioration or combine 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 actions to limit the institution's exposures, build up a liquidity cushion, or adjust the institution's liquidity profile to fit its risk tolerance. In some situations, management may adjust the institution'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 CFPs. Management generally identifies alternative funding sources and ensures 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. CFPs can also establish a hierarchy for contingent funding sources. For example, cash and cash equivalents are typically placed at the top of the hierarchy (e.g., reserve balances at the Federal Reserve, interest-bearing balances, federal funds sold, and due from accounts), followed by operationalized borrowing lines with the Federal Reserve discount window, unencumbered highly liquid securities, FHLB borrowing lines, etc. The use of these sources can depend on the nature and duration of a prospective liquidity or market stress event, as well as the ability to sell liquid assets or draw on contingent lines of credit.

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. Management that relies on secured funding sources for contingency funding generally also consider whether the institution may be subject to higher margin or collateral requirements in certain stress scenarios. Higher margin or collateral requirements may be triggered by 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 institution could be significantly reduced.

Institutions also benefit by operationalizing other secured funding lines, giving management the ability to draw on these lines immediately. Effective management will generally determine an appropriate contingent borrowing capacity and pledge collateral to funds providers as appropriate.

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 and Updating Contingency Funding Plans

Management periodically tests and updates the CFP to assess its 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. 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, 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 performed 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 institution 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 typically provide for a dedicated crisis management team and administrative structure and include realistic action plans to execute the plan elements for various levels of stress. CFPs establish clear lines of authority and reporting by defining responsibilities and decision-making authority. CFPs also address the need for more frequent communication and reporting among team members, the board, and other affected parties. Critical liquidity events may also require daily computation of 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 management maintains plans (including public relations plans) to help preserve the institution's reputation 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, considering 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 liquidity 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. Independent reviews are typically performed at least annually.

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EVALUATION OF LIQUIDITY

Liquidity Component Review

Under the *Uniform Financial Institutions Rating System*, in evaluating the adequacy of a financial institution's liquidity position, consideration should be given to 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.