NWX-FDIC (US)

Moderator: Frank Hughes
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1:30 pm ET

Coordinator: Welcome and thank you for standing by. At this time all participants are in a listen only mode. During the question-and-answer portion you may press star 1 if you wish to ask a question over the phone.

This conference is being recorded. If you have any objections you may disconnect at this time. I'll now turn the conference over to Deputy Regional Director Frank Hughes. Thank you. Please begin.

Frank Hughes: Thank you and good afternoon everyone. Welcome to today's conference call entitled *Liquidity Risk and Funds Management*. I'm Frank Hughes, the Deputy Regional Director for the New York Region. Thank you for joining us.

During today's call we will discuss liquidity and related risk management practices for community banks. Specifically we will cover industry liquidity trends, risks associated with various community bank funding sources, funding concentrations, liquidity measurement systems, cash flow scenario analysis, liquid asset cushions, and contingency funding plans. The session

will also touch on the potential impact of changing market interest rates on a bank's liquidity position.

We view these conference calls as an opportunity to share regulatory perspectives and discuss items of supervisory importance with a wide audience. These calls also present us with the opportunity to hear directly from you regarding any questions you may have on the issues discussed. In addition to our periodic conference calls the FDIC has again partnered with state trade associations to offer Directors College training workshops in the New York region throughout 2018.

These interactive one-day training workshops are designed for bank directors, and provide timely technical training on industry hot topics as well as foster peer-to-peer network and learning. These sessions also provide the opportunity for directors to interact with regulators outside of the examination process. Some of you may have attended these events already but several more events are planned for the remainder of the year. Please contact your state trade associations for dates and locations.

Your confirmation email included a link to the PowerPoint slides for today's discussion. The PowerPoint slides should aide you in following today's presentation and can be used for future reference. If you have any questions related to this presentation you can contact the presenters or email us at FDICCommuncationsNY@fdic.gov. There will be a question and answer session at the end of the presentation. The operator will provide procedures for calling in a question.

Please note that you can also send email questions at any time during the presentation to FDICCommunicationsNY@fdic.gov. For any questions that

are specific to a particular institution or present a unique set of circumstances for a particular bank please email those questions to the mailbox.

With me today are Senior Capital Markets and Securities Specialists Mike Aldrich, Mike Kostrna and Greg Quint. They will discuss managing liquidity risk in community banks. Before I turn it over to them, I think everyone received or is aware that there may be national notification out to all cell phones by the government for the nationwide emergency alert system. I think that's supposed to occur around 2:18, which is towards the end of our presentation. We'll manage through that but please stay on the line so we can finish up with questions and answers. Now at this time I'll turn it over to Greg Quint.

Greg Quint: Great, thank you, Frank. Slide 2 sets the stage for today's discussion which will focus on liquidity risk and funds management. We'll start by discussing the shape of the yield curve and implications for liquidity and interest rate risks. This will be followed by overviews of industry trends in the New York Region including changes and asset-based liquidity positions and funding structures.

Next we will provide some insight into our view on concentrated funding exposures and what thresholds are generally used in determining when to include a written assessment of funding concentrations in the Report of Examination. We will also highlight some specific funding types and the challenges banks may face managing these funding sources in a stressed environment.

The remainder of the presentation emphasizes the importance of an effective risk management program including strong risk management practices related to cash flow scenarios and contingency funding plans. Finally we will open

up the lines for a question and answer session where listeners will be able to call in or email questions. Let's get started by discussing today's interest rate environment and how it might be impacting funding decisions and interest rate risk exposures.

The next two slides will illustrate some recent interest rate trends. The blue line on this slide shows the long term trend in the ten year Treasury yield while the red line shows the trend in the three month Treasury yield. The slide shows that interest rate declined for a considerable period to historical low levels. However, after a long period of generally falling rates, the bottom right corner of the slide shows that interest rates have started to climb.

You can see that the ten year Treasury yield has increased to over 3% from a low of about half of that. Likewise the red line shows a recent sharp increase in the three month Treasury yield. Rising interest rates can adversely impact a bank's liquidity in several ways.

First, as interest rates rise, the value of fixed rate assets falls. A decline in an asset's price such as a security or a loan will reduce its value as a source of liquidity regardless of whether it is sold or used as collateral to secure borrowing.

Second, rising interest rates may reduce the amount of cash flow that a bank receives on its portfolio mortgage loans or mortgage backed securities. Rising rates generally reduce the volume of mortgage pre-payments which reduces a bank's monthly cash inflow and extends the life of its mortgage assets.

Lastly, rising rates can impact the ability of floating rate borrowers to make their monthly loan payments, especially if those borrowers are already operating with marginal cash flow coverage. Separately this slide also shows

that the relationship between long and short term interest rates can change over time. Although long rates are generally higher than short term rates, at several points over the last 30 years short term rates have approached or exceeded long term rates. When short term rates exceed long term rates, an inverted yield curve exists creating a challenging environment for bank profitability.

To illustrate the current relationship between long and short term interest rates, Slide 4 shows two Treasury yield curves. The blue line is a Treasury curve from September 2015. The red line is a Treasury curve from September 2018. It can easily be seen from the slide that the Treasury yield curve in September 2018 is much flatter than it was in September 2015.

It can also be seen that the reason for the flattening was primarily due to an increase in short term rates. Because banks' assets are generally priced off of the long end of the curve while liabilities are priced off the short end, a flattening of the curve can impact bank profitability.

Now that we've talked about the challenges in today's interest rate environment, let's take a look at some specific industry trends related to liquidity. The chart on Slide 5 illustrates changes in cash, Fed funds sold, repurchase agreements, and unpledged investment securities over the past 20 years. Since the peak in 2003, there has been an overall decline in liquid assets as a percentage of total assets in the New York Region's banks.

Notable declines occurred during the buildup to the 2008 financial crisis and more recently as banks converted securities to meet loan demand and increase yield. In response to the crisis, asset-based liquidity levels rose as banks themselves began a flight to safety and began to rebuild on balance sheet liquidity.

As short term interest rates reached unprecedented lows and the economic outlook began to improve, asset based liquidity once again began to tail off to some of the lowest levels in decades. As margins compressed and loan demand improved, banks reinvested liquid assets into longer term higher yielding asset.

Note that since 2012 the New York Region's bank retains far fewer liquid assets on their balance sheets compared to the nation, 13% versus 18%. As further evidence of tightening on balance sheet liquidity specific to the New York Region, approximately 31% of the banks in the region have on balance sheet liquidity of less than 10% of total assets.

Later we will expand our discussion about the risks associated with not holding sufficient amounts of liquid assets particularly during periods of stress. First let's take a look at the concentration of long term assets in the region and how this might impact interest rate risk and liquidity risk.

The chart on Slide 6 shows the median percentage of assets maturing or repricing in over five years relative to total assets. These assets typically consist of fixed rate mortgages, mortgage backed securities, and long term bonds. As you can see from the chart the New York Region's banks hold almost double the amount of long term assets relative to the nation.

Much of this growth in long term assets has come at a time when interest rates are at historical lows. A long term asset structure can have liquidity implications if rates continue to rise. For example the likelihood of mortgage pre-payments, which are most significant in longer term mortgages, diminishes resulting in less cash flow. Also, as we will discuss later as market

interest rates increase, the value of long term assets such as securities decreases, negatively impacting the liquidity.

Now that we have discussed the asset side of the balance sheet let's take a look at funding trends. Slide 7 shows the relationship between interest rates and funding flows. Similar to the low rate environment in the early 2000s, banks have experienced a significant deposit migration from term liabilities such as CDs to non-maturity deposits. Following the financial crisis, banks experienced a surge of lower cost deposits as investors looked for safety through a flight to quality.

If interest rates continue to rise, this trend could reverse. Some of these non-maturity deposit balances are likely parked funds and could shift into a higher cost deposit or even exit the bank. When selecting cash flow scenarios, management should consider a rapid increase in interest rates as a possible stress event.

This is a relevant scenario given the historical low interest rate cycle and the level of non-maturity deposits as a percentage of total funding in the industry. This scenario should consider the increased liquidity cost associated with changes in deposit mix as well as deposit outflow from potential parked funds.

Now let's move on to discuss funding sources with potentially volatile characteristics. On Slide 8 we take a look at recent trends in funding sources. As shown on the chart, wholesale funding usage is on a slow but steady rise in recent years. Although listing service deposits are generally aggregated with core deposits for reporting purposes on the UBPR, we include these deposits in this analysis because their pricing is much more market-driven and there's typically no other relationship between the customer and the bank. As a

result, these deposits can be significantly more volatile relative to traditional deposits.

Some banks have used brokered and listing service deposits to support rapid growth in loans and other assets. A bank's asset growth should be prudent and its management must consider the source, volatility, and use of funds generated to support asset growth.

The FDIC does not discourage a diversified funding program that includes funding sources such as brokered and listing service deposits when used as part of a sound asset/liability management program. However ongoing monitoring efforts for these types of deposits should include an analysis of the volume of deposit products and the rates being paid. Additionally as part of ongoing scenario analysis and contingency planning, management should include scenarios where the availability of these deposits is limited.

We will discuss the importance of understanding the nature of the bank's deposit base, scenario analysis, and contingency funding plans later in the call. Please note that given the recent enactment of the Economic Growth, Regulatory Relief, and Consumer Protection Act, under certain circumstances reciprocal deposits will not be considered brokered deposits. The revised reporting requirements are outlined in the FFIEC's June 30, 2018 Supplemental Call Report Instructions.

Slide 9 shows the effect of changing interest rates on investment portfolios of community banks in the New York Region. As you can see from the chart, during recent low rate cycles investment portfolios have performed well from a valuation standpoint. We can also see how the investment portfolio can swing from a gain position to a loss position. For example during recent

periods as the ten year Treasury yield has trended up, unrealized gains vanished.

We see the same impact with various other periods where the ten year Treasury rate was increasing. This is an important concept to consider as part of the liquidity management process. Depending on how a bank strategically uses its investment portfolio for liquidity will determine the extent to which rate changes will impact liquidity. If a Bank maintains a short term low duration investment portfolio, medium term rate moves may not be a concern. However, for many banks in the region, investment portfolios tend to be longer term and can be sensitive to medium term rate changes.

In a scenario such as a rapid increase in market interest rate securities may represent a decreasing source of liquidity as valuations erode making it costly to sell securities if the need were to arise. Additionally as the value of collateral decreases banks may have to increase the amount of securities pledged. Management should be evaluating borrowing capacities periodically, including an assessment of projected changes in valuations and availability during changing market condition. Now I will turn the presentation over to Mike Aldrich to discuss funding concentrations and cash flow analysis.

Mike Aldrich: Thank you, Greg. Next we will discuss funding concentrations and how they are addressed in the FDIC Report of Examination. Funding concentrations in brokered deposits and other wholesale or potentially volatile funding sources that were used to fund poorly underwritten loans and other risky assets contributed to the increase in problem banks, failures, and losses to the Deposit Insurance Fund over the past two crises.

Examiners have long been instructed to consider risk management on both sides of the balance sheet. However, given our recent experiences, we updated our instructions to examiners on reviewing bank management's assessment of the stability of its funding base, particularly where banks have concentrations in potentially volatile funding sources.

A funding concentration exists when a bank depends on one or more sources for a material share of its funding needs. The FDIC does not prescribe concentration thresholds or limits; however, we have seen instances where even relatively low levels of potentially volatile funding exposures have posed an elevated liquidity risk to the reliant bank. The FDIC Report of Examination Instructions for preparing the Concentrations Page were revised in late 2014 to enhance identification and risk analysis of concentrated funding exposures.

The Concentrations Page will be included in the report when funding exposures exceed certain levels. In particular, funding concentrations that represent 10% or more of total assets by a single funding source will be shown as a concentration. Funding concentrations representing less than 10% of total assets may also be listed if elevated risk is evident or inclusion supports material examination findings.

In addition, funding sources that in aggregate represent 25% or more of total assets would also be listed as a concentration. Examples of these sources may include brokered, large, high rate, uninsured, and listing service deposits; Federal funds purchased; or borrowings. It is important to note that including a funding concentration in the Report of Examination is not, in and of itself, a criticism and should not in any way be viewed as a regulatory funding limit. Examiners are also reviewing and assessing management's risk management framework and controls over funding concentrations just as they do on the

asset side of the balance sheet. Many banks that rely on a variety of less stable funding sources may have elevated liquidity risk.

Individually, levels of exposure to each of these funding sources may be relatively small, but in combination they may represent a large portion of the bank's funding and could expose the bank to potential liquidity challenges. Because of this, the examiner's assessment is focused on management's practices for identifying, mitigating, and monitoring risks related to the concentration. This includes contingency plans in case economic, market, or other conditions dictate a shift in strategy.

On Slide 11 we take a closer look at Section 337.6. It is important for all banks to be aware of the statutory and regulatory restrictions if they fall below "Well Capitalized". These restrictions are contained in Section 337.6. Note that a bank under a formal federal enforcement action that contains a "meet and maintain" capital provision would also be considered less than "Well Capitalized" under Part 324 of the FDIC Rules and Regulations and is subject to the same restrictions, even if capital ratios are above "Well Capitalized" minimums.

Section 337.6 limits and/or prohibits access to brokered deposits by banks that are less than "Well Capitalized". It also restricts the rates banks can pay on all deposits if the bank is not "Well Capitalized". Banks that are "Adequately Capitalized" are prohibited from soliciting, renewing, or rolling over brokered deposits unless they obtain a waiver from the FDIC.

In addition, Section 337.6 generally provides that a bank that is below "Well Capitalized" may not pay a rate on any deposit in excess of the national rate cap. These deposits are often referred to as "high rate deposits" in the market. The deposit rate restriction cannot be waived. However banks that believe

they're operating in a high rate market may be able to use the prevailing local rate to establish the rate cap for locally sourced deposits. We'll talk more about that in a moment.

Finally, banks that are less than "Adequately Capitalized" are prohibited from using brokered deposits. There is no waiver available. In certain circumstances reciprocal deposits are now excluded from treatment as brokered deposits for qualifying banks. These changes are a result of the Economic Growth, Regulatory Relief and Consumer Protection Act which the FDIC is in the process of implementing.

As a result, restrictions related to brokered deposits may not be applicable to certain reciprocal deposits, depending on bank specific circumstances. Now let's expand on our discussion about the restrictions on rates that can be paid by banks that are below "Well Capitalized" because this can be an area that often raises questions.

Before we start Slide 12 we need to emphasize that banks that are "Well Capitalized" are not subject to rate restrictions. That said, banks that implement a funding strategy that relies on paying very high rates for deposits need to be mindful of the statutory and regulatory restrictions that come into play if they fall below "Well Capitalized" for Prompt Corrective Action purposes and how that might affect the stability of these deposits.

In general, under 337.6 if a bank is less than "Well Capitalized" it is restricted from paying a rate of interest on any deposit (brokered or otherwise) in excess of the average national rate plus 75 basis points. This interest rate restriction cannot be waived. The average national rate is a simple average of rates paid by all banks and branches for a variety of deposit products in a number of maturity categories.

Average national rates and the resulting rate caps are posted weekly on the FDIC's website. For banks that are less than "Well Capitalized", the applicable rate cap will depend on how deposits are gathered. Deposits obtained from the internet, listing services, or other national sources will be subject to the national rate cap. However, if a less than "Well Capitalized" bank that gathers deposits from its local market believes that the average national rate doesn't correspond to the actual prevailing rate in its local market, then the bank may seek a determination from the FDIC that the bank is operating in a high rate area.

If the FDIC makes this determination, then the bank will be able to offer the average prevailing rate in its market plus 75 basis points to depositors within the local market. However, as I just described, for deposits gathered from outside the applicable market area, the bank will not be allowed to offer rates in excess of the average national rate plus 75 basis points.

These rate restrictions can have significant liquidity implications for those banks to which they apply. Particularly in today's rising rate and competitive deposit environment, banks that are less than "Well Capitalized" and subject to the interest rate restriction may experience funding challenges. For example, the national rate cap and even the local rate cap if the bank is granted a high rate determination may not be sufficiently high enough to attract or retain deposits. Therefore banks that rely heavily on rate sensitive depositors and lack robust and realistic contingency plans may experience funding implications if the bank falls below "Well Capitalized" and needs to reduce the rate on its high rate deposits.

Examiners will analyze the way the bank is controlling for risk related to this concentration by reviewing the bank's own analysis of deposit sourcing and

pricing in identifying their high rate deposits. Now let's talk about deposit stability on Slide 13.

The UBPR defines "core" deposits as all transaction accounts, MMDAs, savings accounts, and non-brokered time deposits less than $250,000. This definition covers a wide range of deposit products and for this reason the word "core" can be something of a misnomer. Some of the products defined as "core" in the UBPR are very likely not truly stable sources of funding.

For example the UBPR "core" definition would include a high rate MMDA which has promotional rates and other incentive rates to retain deposits. It would also include retail CD special under $250,000 and listing service deposits. These particular deposit types may lack stability in that they may only be at the bank due to a high interest rate and have no other relationship with the bank.

It's important for bank management to be able to identify and understand deposit stability. Stable deposits are often those that are relationship-based and/or long term and are usually lower cost with pricing that typically lags other funding sources during a period of rising interest rates.

High cost or non-relationship deposits, such as listing service deposits or deposits obtained through high rate promotions, may not be a stable source of funds. These depositors behave differently under stressed environments and changing economic conditions.

Next let's talk about uninsured deposits and large depositors and items management should consider in controlling risk associated with concentrations in these types of deposits. You will note they are identical.

Most bankers are well aware of their large depositors but may not be as familiar with the volume of uninsured deposits. Remember that the entire deposit, not just the uninsured portion, may be at risk of leaving the bank such as in a rising rate environment, in a highly competitive market, or if the bank's financial condition deteriorates.

Management should regularly analyze the stability of significant customer relationships, including deposit accounts, and reflect these accordingly in the bank's internal liquidity monitoring and reporting systems. When assessing the stability of larger deposits management should consider whether the customer has a relationship with the bank, the duration of the relationship, any special circumstances regarding the relationship and whether the customer uses other bank products or services.

Now that we have discussed the stability of a bank's funding sources, the reasons management needs to control risks associated with funding concentrations, and the potential volatility of certain funding sources, let's shift to discuss the measurement of liquidity risk at a bank.

Risk measurement and monitoring are important components of the risk management framework. Each bank should use liquidity cash flow projections and forecasts to prudently manage its liquid asset and funding positions. The measurement system should be commensurate with the bank's complexity, risk profile, and scope of operations. Virtually all banks already look at reports that include some cash flows, whether that's a loan pipeline report, expected security maturities, or historical CD retention. However, these reports should be aggregated into a comprehensive cash flow forecast.

Cash flow forecasts should include not only contractual cash flows but also non-contractual cash flows such as forecasted deposit flows and projected

loan disbursements and asset prepayments. Time horizons will vary based on a bank's structure and strategies. Likewise the categories that should be included and the details within categories will vary by bank.

The cash flow forecast should include actual cash on hand less projected cash outflows plus projected cash inflows to identify cash flow gaps. Outflows should be separate from inflows to help see the specific impact of assumptions. Ideally both the outflows and inflows will be detailed enough to identify differing assumptions.

Most banks have adopted satisfactory cash flow forecasts, but assumption support and documentation is sometimes an area in need of enhancement. Although perhaps not as complex, there are parallels around the expectations for documenting liquidity and interest rate risk assumptions.

Slide 16 shows examples of some of the critical assumptions in preparing cash flow reports. All liquidity modeling assumptions should be supported by quantitative and qualitative analysis. Some assumptions such as investment or borrowing calls should be largely quantitative whereas other assumptions such as non-maturity deposit stability or CD early withdrawals should have a material qualitative component.

The general methodology for these assumptions should be regularly reviewed by senior management and the Board and should be subject to independent review.

On Slide 17 we have an example of a pro-forma base cash flow projection. This is not a supervisory standard or expectation for such analysis but an illustration of how management might approach this exercise from a high level.

Banks can tailor such analysis based on their complexity and can have different and very likely more categories of outflows and inflows. The base case cash flow is the same thing as saying our "business as usual" cash flow projection. We project what we expect for cash outflows and cash inflows over the various time horizons and then sum them to arrive at the cumulative net cash flow at the end of each time horizon.

We then compare the cumulative net cash flow to our current on balance sheet liquidity, our first line of liquidity support. This gives us our projection for what this bank's liquid assets to total assets ratio will be for each time horizon. This bank has set a minimum of 18% on that ratio, and we can see that according to projections the liquid asset ratio should remain above that minimum in this "business as usual" forecast. Now I will turn the presentation over to Michael Kostrna to discuss scenario analysis.

Mike Kostrna: Thank you, Mike. The cash flow models serve as the foundation for stress scenario analysis. Once a bank has built an effective forward looking cash flow measurement system, it can be used as a template for scenario analysis. The process involves taking the bank's base case or "business as usual" cash flow and introducing an adverse scenario that may impact several of the projections within the cash flow.

Management should determine the most relevant stress scenarios based on the nature of the bank's business, funding structure, and market considerations. Scenarios should consider both bank-specific and market-wide scenarios and events. Ultimately, the outcome of the analysis should identify and quantify sources of potential liquidity strain and should allow the banker the ability to assess how the scenario impacts cash flows and in turn the bank's liquidity position and overall financial condition.

The frequency and magnitude of stress will be a function of the complexity of the bank's operations and the level of its risk exposures. Stress events are those that may have a significant impact on the bank's liquidity given its specific balance sheet structure, business lines, organizational structure, and other characteristics. Management should discuss the results at management level committees and with the Board and take action when necessary to mitigate risk. As we will discuss shortly, the Contingency Funding Plan provides a documented framework for managing unexpected liquidity situations.

Bank-specific liquidity stresses are often the focus of adverse scenarios, but management should also consider market-wide events. Here on slide 20 are some common examples. Often one of the most critical scenarios is going to be one involving the bank's regulatory capital level falling below "Well Capitalized". As discussed previously, this scenario could have a significant impact on forecasted cash flows as brokered deposits are restricted and the bank's ability to generate new deposits using above market interest rates can be affected.

Management should consider what its principal sources and uses of cash flows are and then choose scenarios where those sources and uses are materially impacted. Often the most adverse scenarios will include a combination of bank-specific and market-wide events. A general downturn in economic conditions could result in deteriorating credit quality for a bank which could lead to a weakening financial condition. This could cause borrowing line providers to increase required collateral at the same time cash flow from loans is decreasing.

Increasing interest rates are another consideration that could impact liquidity levels. Increasing rates could cause declines in security valuations, impacting their ability to serve as a liquidity cushion or collateral for borrowings. Increasing rates could also impact borrowers' ability to service variable rate loans.

Next we have an example of a stress scenario applied to the base case cash flows that we presented previously. For ease of reference we have included that base case cash flow projection again here on Slide 21. Slide 22 then shows the impact of a stress event. For this scenario we have assumed that several quarters of operating losses have resulted in a decline to less than "Well Capitalized". The result is a significant increase in deposit outflows and an inability to generate new deposit growth.

This scenario also assumes an increase in interest rates and as a result loan cash flows have declined as prepayments have slowed. Management has recognized the liquidity stress and begins to curtail lending after 90 days as we can see a drop in the new loans in the later time periods. This curtailment of lending is partially a mitigating action and should be highlighted when presenting these reports to senior management and the Board.

The result is that the net cash outflow is greater than the on balance sheet liquidity is able to absorb. The resulting projected liquid asset ratio has fallen below the bank's 18% limit to the point where on balance sheet liquidity is projected to be negative in the final time horizon. Rather than stop at this point, it is expected that the analysis will then take the next step of layering in the forecasted mitigating actions that would be undertaken to return liquidity to within policy limits.

In this case we see that additional borrowings are taken on in each of the time horizons in order to bring on balance sheet liquidity back to the bank's 18% limit. Now let's talk about the considerations for the cushion of liquid assets on Slide 23.

As part of a prudent liquidity risk management program banks should maintain an adequate cushion of liquid assets that are free from legal, regulatory, or operational impediments, or in other words unencumbered, which can be sold or pledged to obtain funds in a range of stress scenarios.

These assets should be held as insurance against adverse liquidity scenarios including those that involve the loss or impairment of available funding sources. One of the important purposes of scenario analysis is to help a bank determine the appropriate level of its cushion of highly liquid assets. The size of the cushion should be supported by scenario analysis results as well as align with the risk tolerance and risk profile of the bank.

The starting point begins by assessing peak historical cash needs under normal operating conditions. Management then adds to the cushion an amount to compensate for adverse liquidity demands estimated through scenario analysis. Funds management policies should address the minimal level to be maintained, periodic reassessments and monitoring approaches, as well as the assets that qualify as highly liquid.

The 2010 Interagency Policy Statement on Funding and Liquidity Risk Management provides information on scenario analysis, sizing the cushion of highly liquid assets, and other liquidity risk management concepts and is included in the list of resources on a later slide.

Slide 24 illustrates a process used to determine the appropriate size of the cushion of liquid assets. A key concept is the linkage between stress scenario results and the appropriate level of on balance sheet liquid assets. The process consists of the following steps. Management first sets a level for the cushion of liquid assets. Management then runs scenarios of varying severity which negatively impact the level of the cushion.

Next management layers in reasonable and realistic mitigating actions such as borrowings or securities sales and then calculates a bottom level of the cushion. Finally management decides whether it's comfortable with the bottom line impact of the stress events on the level of the cushion. If not (for instance, a moderate stress cannot be funded), it should either increase the level of the cushion or seek additional funding sources.

Now let's shift to talk about Contingency Funding Plans. Contingency Funding Plans outline the strategies and processes that guide a bank's response to liquidity stress. Slide 25 lists the components of a comprehensive Contingency Funding Plan. Obviously the level of detail will vary based on the complexity and risk position of the bank.

First, Contingency Funding Plans should identify the possible liquidity stress events that a bank might encounter. Possible stress events may include a deterioration in asset quality, becoming less than "Well Capitalized", suffering negative press coverage, or other events that may call into question a bank's ability to meet its obligations.

Second, banks should identify different levels of severity to design early warnings indicators and assess potential funding needs at various points in the developing crisis The timing of the stress event should include both temporary disruptions as well as intermediate or long term events. Third, a

critical element of a Contingency Funding Plan is the identification of expected funding needs and funding sources during the stress event.

This should be the narrative that supports the quantitative scenario analysis and should identify and assess the adequacy of contingent funding sources. Also/ the plan should identify any back up facilities such as lines of credit, the conditions and limitations to their use, and the circumstances where the bank might use such facilities.

Next, the Contingency Funding Plan should establish an effective event management process. This entails providing for a crisis management team, including realistic action plans used to execute the various elements of the plan for given levels of stress. The plan should define responsibilities and decision-making authority so that all personnel understand their role during a liquidity stress event. Frequent communication and reporting among team members, the Board of Directors, and other affected managers optimizes the effectiveness of a Contingency Funding Plan during an adverse liquidity event. Action plans will lay out potential responses to a liquidity stress event. Plans should be tailored to the specific scenarios simulated by the bank and incorporate realistic responses.

Finally management should develop a framework to monitor for potential liquidity stress events by using early warning indicators and event triggers. The early recognition of potential events allows the bank to position itself into progressive states of readiness as the event evolves while providing a framework to communicate within the bank and to outside parties.

We will discuss early warning indicators on the next two slides. The components of a Contingency Funding Plan are also discussed in detail in the 2010 Interagency Policy Statement. Let’s expand our discussion about early

warning indicators. Early warning indicators are triggers that alert management to a potential or approaching liquidity issue. Early recognition of a potential liquidity issue provides management time to consider what mitigating action might be appropriate given the characteristics of a specific event.

Early warning indicators should be comprehensive and incorporate triggers that reflect both internal and external events. Additionally, the indicators should be progressive and should prompt the crisis management team to take mitigating actions depending on the severity of the event. The early warning indicators should be tied to specific responses outlined in the Contingency Funding Plan.

Here are examples of some early warning indicators that we have seen effectively used as part of a monitoring framework for a Contingency Funding Plan. As indicated previously, triggers are often linked to bank-specific as well as market-based measures. For example, banks may establish indicators for borrowing limits or volatility in deposit levels. Systemic measures could include a negative trend in an industry in which the bank has a lending concentration.

When developing early warning indicators, keep in mind that some of the triggers can be interrelated. For example, deteriorating economic conditions can disrupt markets, affect credit quality, and decrease liquidity in certain asset classes. Before any meaningful early warning indicators can be established management needs to understand the potential funding needs and related costs in a stress scenario. This will allow management to develop triggers that are most relevant to the bank's unique funding structure and potential risks.

This concludes our formal presentation. But before we open up the lines for questions, we want to provide a list of available resources. The 2010 Interagency Policy Statement on Funding and Liquidity Risk Management provides comprehensive information on liquidity risk management. The summer 2017 issue of the FDIC Supervisory Insights contains an article discussing liquidity risk management challenges at community banks.

We also included references to Part 337 of the FDIC's Rules and Regulations and related Financial Institution Letters that provide information on brokered deposits and high rate determinations. In addition to the reference material that focuses on liquidity management, we have included information sources regarding interest rate risk and risk management practices as set forth in the FDIC Risk Management Manual of Examination Policies. These resources contain references to sound funds management standards.

Slide 29 provides some additional resources related to liquidity risk including FDIC's *Crisis and Response*, which is an analysis of the causes that led to the extraordinary number of bank failures during the 2008 financial crisis. There is also a reference to the Material Loss Reviews if there is interest in how funding issues contributed to bank failures.

Additionally we included contact information for the presenters including telephone numbers and email addresses in the event questions come up as you review the material presented today. We have also included a link to the Director's Resource Center which is a special section of the FDIC's website that is dedicated to providing useful information and resources for directors and officers of FDIC-insured institutions including locations, dates, and registration information for the Directors College sessions.

The Director's Resource Center also includes links to the FDIC's Technical Assistance Video Program. This program contains a series of educational videos designed to provide useful information to bank directors, officers, and employees on areas of supervisory focus and regulatory change. Additionally, the Capital Markets Resource Center includes a section dedicated to Liquidity and Funds Management.

We would like to thank you for your participation as we open up the telephone lines for a question and answer session.

Coordinator: Thank you. At this time if you'd like to ask a question over the phone line, first please ensure your phone is un-muted. Then press star 1 and record your name briefly when prompted to enter the queue. Your name recording is requested so I can introduce your question. Once again that is star 1 if you have a question over the phone line. Those do take a moment to queue up. Please stand by.

We have questions coming through. One moment for our first phone question. Our first question from the phone line is coming from [caller 1]. [Caller 1], your line is open.

[Caller 1]: Yes. My question is related to the FDIC rate cap. I believe the methodology was changed when the Fed was in the zero balance, and most banks were paying lower amounts. Now that there's a lot more price competition, has anyone done any research to see what percentage of banks are over the FDIC rate cap and if that's changed materially over time?

Man: Yes. I'm not aware that we have done any specific studies related to that, but we're certainly aware that competition for deposits has increased

substantially, a significant change from three or four years ago when liquidity in the system was high.

Man: We have an email question that came in. If we have conducted a recent capital raise and we are well above "Well Capitalized", it does not seem necessary to spend time running a liquidity stress scenario. I know you said it should often be a scenario, but is it a required scenario?

I would say that it is a scenario that we're recommending most banks perform because of the dramatic impact that it can have, of falling below "Well Capitalized". And just to remind you, if you fall under a federal enforcement action that has a "meet and maintain" clause, that can also bring you to "Adequately Capitalized" regardless of what your capital ratios are.

The question seems to ask if they need to do liquidity stress testing in general, which I would say you certainly need to do. And then specifically we would still recommend that you run an analysis of what would happen if you were to fall to "Adequately Capitalized" because that has such an impact on so many different sources of funding.

Coordinator: We do have some additional questions from the phone line. Our next phone question will come from [caller 2]. Your line is open, [caller 2].

[Caller 2]: I want to follow up on the national rate question. My understanding is, as you said, you take the rates at all of the branches of all the banks. In other words, if Bank of America, with however many thousands of branches they have, if they have rates that are well below everybody, they're impacting the national rate so that quite frankly the national rate is so ridiculously low, it has no bearing on what we all have to pay to be competitive. What I'd like to hear is, is there any move afoot to adjust that to a reasonable level? Thank you.

Man: Yes. We obviously hear this question or this commentary quite a bit. First I want to clarify that the rate cap only applies to institutions that are less than "Well Capitalized". Secondly the regulation does define how we calculate that rate cap, so you're correct. It is all branches and banks of all insured depository institutions, FDIC-insured depository institutions.

Third, for institutions that are subject to the rate cap but feel that the rate cap is not reflective of the competition in the local markets, as we talked about during the call, they can ask for a high rate determination and then calculate the rate cap in their local market for deposits that are raised locally. Then finally, to your last point, we did issue an NPR, a Notice of Proposed Rulemaking, for the reciprocal deposit treatment on September 13. In that public announcement we also indicated that this is the first of a two-part effort to revisit the brokered deposit rule.

[Caller 2]: Okay. Can I have a follow up question?

Man: Sure.

[Caller 2]: So in an FDIC exam if the bank is "Well Capitalized" should any of the analysis to determine funding concentrations or ratios utilize that national rate to determine if any of the deposits held are considered high rate?

Man: You're referring to the Concentrations Page. What we're really interested there in completing that page and as we talked about in the presentation is really talking about the bank's funds management, risk management practices. As a starting point for high rate deposits, obviously starting with the national rate, we would use that to determine if there are high rate deposits at the institution. But if the bank can show and is tracking its deposits locally and

showing that they're well within their local market rates, we would look to that as part of our analysis of the bank's funding structure.

It's not immediately – we're not immediately going to the national rate for locally sourced deposits if the bank is actually tracking that and can demonstrate that the rates they're paying locally are within that local market competition.

[Caller 2]: I can't say that was the experience that we had but we won't go into specifics at this point.

Man: All right.

Man: We had an email question that came in. Do you view three year brokered CDs to be as volatile as three month brokered CDs? It really is going to depend on when the brokered – the three year matures because it could be late in the maturity – so it could be maturing in three months. Or it could be at day 1, so you've got three years. I'd say it's not volatile at three years out, but if it's got three months to maturity I'd probably look at that as equally as volatile.

Woman: Operator, do we have any more questions on the phone?

Coordinator: Yes. We do have a question here from [caller 3]. Your line's open [caller 3].

[Caller 3]: Yes. The gentlemen a couple calls ago asked the same question that I did but I want – I guess I want to ask it again. Why does the rate of a savings account at Chase or Bank of America have thousands of times more importance than the rates of community banks since you're basing your average on branches? Also why are we ignoring credit unions and internet banks entirely since

internet banks might not have branches but their rates are very reflective on the market.

Eight basis points as the national average for a savings account is a joke. If that was really the average the community banks were paying they wouldn't have any accounts at the moment.

Man: Yes. As I said in responding to the previous question, again the rate caps apply only to institutions that are less than "Well Capitalized". For deposits that are raised locally for banks that are subject to the rate caps and if they – and for deposits that are raised locally, if they feel that the national rate cap is not reflective of their market experience they can apply for a high rate determination and use their local market rate cap in determining the rates they can pay for locally sourced deposits.

Secondly, the rate cap does include all insured depository institutions. It does not include credit unions, but there is a provision that allows local banks if they're using their local rate determination they can include credit unions in their analysis for the local rate cap. And as I said, we just issued an NPR on reciprocal deposits, and it's the first of two parts of our review of the brokered deposit regulation.

[Caller 3]: Well I could ask a follow up question, why is the rate at Chase a thousand times or 5000 times more important than the rate at my bank, [bank name redacted]? Because we only have two branches and they might have 100. I think part of the national rate cap would make more sense if we would make every bank uniform.

Man: Yes. I would encourage you as we're revisiting the brokered deposit regulation to send in your commentary. We do review those and we do take those into consideration when we're looking at our regulations.

[Caller 3]: Okay. But again it's got nothing to do with brokered deposits, the rate on savings accounts. You mean the national rate cap, you're going to revise that?

Man: Part 337.6 covers brokered deposits and rate restrictions.

[Caller 3]: Okay.

Man: We've got some questions here. We're taking a look and we can respond to those while we're waiting for any questions on the phone.

Coordinator: We do have a question here from the phone line. It's coming from [caller 4]. Your line is open [caller 4].

[Caller 4]: Good afternoon. My question goes along really with what we've been talking about. We just finished the FDIC Safety and Soundness exam last week. We got dinged for liquidity. We have huge loan demand. We're in a wealthy market north of [redacted], and I can tell you that listing deposits are cheaper than people. My thought was the listing deposits weren't supposed to be considered brokered deposits or volatile and now that's part of the mix.

The criticism is that we have too much concentration in non-core funding I guess you'd say. I'm looking for some kind of an opinion on that. And we have two billion-dollar credit unions in the area that could put us all out of business.

Man: Sure. If you'd like to send maybe a specific email to one of the presenters we can follow up with you outside of the phone call.

[Caller 4]: No problem. Thank you.

Man: We have a question. Are long term FHLB advances, those with maturities greater than one year, considered potentially volatile funding? If yes, why? When you look at our Concentrations Page and the items listed, FHLB advances are included as a potential funding concentration based on the volume. So if your exposure to FHLB is over 10%, we would list that as a funding concentration.

Man: Another email question we have in, most banks are increasing deposit rates using non-traditional terms: 13 months, 24 months, etc. These don't show up in the national rate cap. Will the regulators consider using these terms in their calculation?

The non-traditional terms in terms of calculating a cap, how we would get a cap for those if it's not quoted is we would interpolate between two points that are quoted. Is 24 months not quoted?

Man: No, it is.

Man: It is.

Man: Yes (unintelligible).

Man: I'm sorry, it's [supposed to say] 25. Yes, so you'd calculate… We'd assume a linear relationship between 24 and 36 to get to the 25 month rate. That's the process if the rates are not calculated. But again, if you have questions or

concerns I would encourage you to respond to the NPR that is going to be public.

Coordinator: We do have an additional question from the phone lines. It's coming again from [caller 2]. Your line is open [caller 2].

[Caller 2]: Yes. To follow up on the rates when we have the oddball terms as I would call it, I think – I know in many cases there is no linear relationship that – in our case we might have a low… We have a high 10 month, a low 12 month – a lower 12 month, a higher 15 month and so on and so forth. If you look at our posted 24 month and 12 month and do an interpolation, you're not going to get anywhere close to our 15 month. And in looking at the surveys that I look at each week, I see that from just about every other bank in our market.

I think your calculation is going to be really off because of that. The other point I'd like to make is this whole presentation was hammering on brokered CDs and the fact that they're not available if you're less than "Well Capitalized".

I guess I would call that for most banks an atomic bomb scenario which to me is, if we're focusing on preventing that, is wrong. In fact brokered CDs are one of the most stable deposits there are because once you lock in, the person can't get out of the brokered CD or the entity can't get out of the brokered CD other than death of the depositor, where a retail CD, the depositor can walk in the bank the next day after signing up for a five year CD and take his money out after paying his prepayment penalty. I'm not sure why brokered CDs are such on the negative list from the FDIC folks but that's just my opinion. Thank you.

Man: With respect to interpolation, again the rate caps are only applicable to institutions that are less than "Well Capitalized". If you're tracking your local rates, and you should be whether you're less than Well or "Well Capitalized", we would expect that you show – that you can demonstrate the 12 and 24 month products are at this percent but actually we're competing in the 15 month or 25 month market and here's how we compare to our competitors. And here's what we think of the stability of those deposits.

We're not dictating to you how you should track this information. We just expect that you understand where your funding is coming from and what is potentially volatile. With respect with the brokered, agreed – they cannot be withdrawn unless death of the owner or the maturity. What creates potential volatility is the restriction once a bank falls below "Well Capitalized". That's what we've been talking about related to a question earlier about whether we should be stressing for less than well even if we have a bunch of capital. It is a significant impact, just as you said, to many institutions' funding structure potentially. That's why we ask banks to stress test for that.

[Caller 2]: How many banks do we have that are close enough being Well Capitalized?

Man: Most of our banks are "Well Capitalized".

[Caller 2]: I see. How many are close to not being Well Capitalized? Is there an issue out there with capital declining that has created this emphasis?

Man: Just like anything, it's forward-looking supervision… looking at scenario analysis, the what-ifs. That's prudent risk management to see what could happen to our institution if we were to fall below "Well Capitalized". That was the point of our discussion about scenario analysis and cash flow analysis.

Man: Any other questions on the phone?

Coordinator: At this time we've got no further phone questions.

Man: We had an email question to come in asking if there's an estimate of the number of local market high rate determinations made in the New York Region so far this year.

I would say there's not many because the bank would have to fall below "Well Capitalized" in order to get the determination. So it's a small number of banks, I can tell you that. I don't know the exact number.

Man: Okay. We're reading some of these online ones so bear with us for a minute. We have a question about why doesn't the FDIC recognize the excess deposit insurance provided by the Shared Insurance Fund of the Co-op Central Bank in Massachusetts when we're looking at funding concentrations, even considering the formal loss share agreement?

What examiners do is they'll list the funding concentration and then they'll talk about the bank's risk management practices related to their funding structure and the risk mitigation related to that. So that would be part of our analysis when we're looking at institutions, anything that might mitigate the concentration risk associated with the funding source. We've got one more here. Hang on.

Man: Do the material loss reviews you mentioned provide granular historical information regarding funding outflows experienced in stress? What reference points are available for potential stressed outflows on new deposit products, for example online deposits?

Man: There's a lot of good information out there, research out there after the 2008 crisis particularly on liquidity runs that give information on the amount of runs and how quickly they occurred in some of the institutions. Early on there were some significant liquidity events so I'd encourage you to go out there and look. I'm not aware of any reference points for potential stress outflows on new deposit products.

I think this is where we would defer to bank management, their quantitative and qualitative views on what they think of these deposits, the stability and stickiness of those deposits. This is where banks can come up with an assumption on runs for these types of deposits but then sensitivity test those assumptions to see the impact, whether… if their assumptions are wrong, how bad it could get based on adjusting the outflow more severely.

Woman: Do we have any more questions on the phone line?

Coordinator: Yes we do have one question that came in from [caller 5]. Your line is open [caller 5].

[Caller 5]: Hello, thank you for the presentation today. I had a question about the stress test. If a banks falls below "Well Capitalized" and they can't raise rates to be competitive in their market, what options does the bank have? In your stress test scenario you indicated that the bank covers the short fall by borrowing from FHLB which is also considered a volatile source of funding. I'm just curious what – when we're looking at our stress tests, what are some ideas we can use to cover the gap assuming a scenario where we fall below "Well Capitalized"?

Man: If you're running a stress scenario, it may be that you need to turn to things like borrowings to address it. We just want to see that you've got a roadmap

for how that's going to happen. If an adverse scenario such as falling to "Adequately Capitalized" is a low probability event for your institution, we would want to see you running the stress test turning off things that would be turned off by regulation. So you wouldn't have access to brokered deposits. You wouldn't have access to fund above the rate cap. But we would expect you to still be able to use borrowing, to the extent that you have them, and whatever you have for on balance sheet liquidity.

Man: Thank you.

Coordinator: We have no further questions from the phone.

Man: I don't think we have any either. We're just checking to see if we have any others. I think that's it, so thank you for participating in the call. If you have questions that come to you after the call, certainly send it to our presenters. We provided their email address at the end of the presentation.

Coordinator: And with that we'll conclude this conference. Thank you for participating and you may disconnect your lines at this time.

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