

# *Sound Liquidity Risk Management in a Challenging Environment*

## **Joint FRB-SF – FDIC Call October 30, 2008**

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# Agenda

- Temporary Liquidity Guarantee Program
- Brokered Deposit Waivers
- Liquidity Environment & Recent Events
- LRM Guidance
- Sound LRM practices & some key issues:
  - Liquidity measures
  - Stress testing/scenario analysis
  - Contingency Funding Plans
- Discount Window
- Key Points / References / Appendix

# Temporary Liquidity Guarantee Program

- The FDIC implemented the TLGP on 10/14/08 to improve liquidity in the banking system
- The Interim Rule was issued and effective on 10/23/08 – public comment period ends 11/13/08
- The TLGP consists of two components:
  - Transaction Account Guarantee Program
  - Debt Guarantee Program
- Entities may opt out of one or both parts of the TLGP, but must do so by 11/12/08
- Resources: [www.fdic.gov/tlqp](http://www.fdic.gov/tlqp) (public comments: [www.fdic.gov/regulations/laws/federal/index.html](http://www.fdic.gov/regulations/laws/federal/index.html))

# Temporary Liquidity Guarantee Program

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## Transaction Account Guarantee Program

- Unlimited insurance coverage of noninterest-bearing transaction accounts through 12/31/09
- Assessment of 10 basis points will be collected on amounts not otherwise covered by existing deposit insurance (\$250,000)
- Coverage includes official checks and funds swept into noninterest-bearing deposit accounts
- The FDIC is requesting comments regarding whether NOW accounts should be covered under the program

# Temporary Liquidity Guarantee Program

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## Debt Guarantee Program

- The FDIC will guarantee (with limits) all senior unsecured debt issued by eligible entities between 10/14/08 and 6/30/09
- Guarantee fees of 75 basis points will be assessed (multiplied by amount of debt issued and calculated for the earlier of maturity or 6/30/12)
- The FDIC guarantee is limited to 125% of senior unsecured debt outstanding as of 9/30/08 and due to mature by 6/30/09
- The FDIC may grant a participating entity authority to exceed the 125% limit – the FDIC may also restrict the authority of an entity to issue guaranteed debt

# Brokered Deposit Waivers

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- Do not assume a waiver will be granted
- Waiver applications reviewed in regards to safe and sound practices
- Waiver requests should include:
  - Plan to reduce dependence on brokered funds
  - Plan to restore capital to Well Capitalized status

# Brokered Deposit Waivers

Application must also contain:

- Time period for request
- Volume, rates, and maturities
- Cost and comparison to other funding options
- Statement on use of brokered deposits in overall funding and liquidity plan
- Procedures to solicit brokered deposits
- Management systems overseeing brokered deposits
- Consolidated financial statement
- Reasons why acceptance would pose no undue risk
- Waiver applications reviewed in regards to safe and sound practices
- Additional information upon request

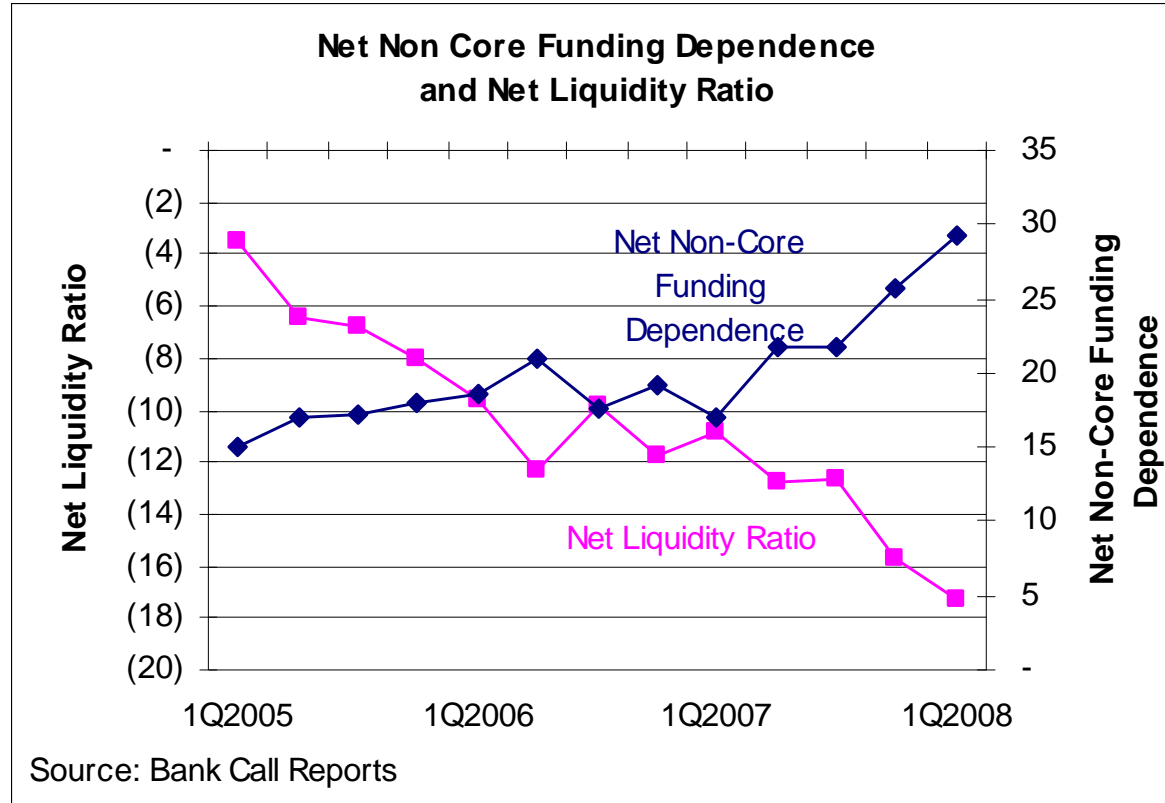
# Brokered Deposit Waivers

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- Waiver may be revoked at any time by written notice
- Even with a waiver, interest rate restrictions apply (*restricted to 75 basis points over effective yield in market area*)

# An Evolving Liquidity Risk Profile

- Traditional balance sheet-based liquidity measures deteriorated over the past several, as banks increasingly relied on non-core funding sources.



# Implications of Evolving Environment

- Changing funding sources and uses challenged traditional LRM concepts and liquidity risk measures
- Asset liquidity changed
  - Securities portfolios potentially less liquid
  - More options for certain loan products
  - Increasing concentrations in particular loan types
- Liability liquidity changed
  - Challenging traditional definitions of core/non-core
  - More options for “alternative” funding
  - Ever increasing competition for retail deposits
- Market developments

*Unfortunately, some institutions did not adjust their risk management practices commensurately with this environment and were not well-prepared to handle the market dislocation of the past year*

# The Market Stress Continues

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- Interbank markets have been unwilling to lend for longer term or larger size.
- ABCP markets have dried up as money market funds fled to safety of Treasuries.
- Most bond Insurers have been downgraded, yet many remain on negative watch, despite infusions of additional capital.
- Mounting losses in the asset pools underlying CDOs and MBS continued to dampen investor interest and depress prices.
- This led to additional margin calls on leveraged investors, causing forced sales which has put additional downward pressure on asset prices.
- The “originate to distribute” model is now no longer viable.

# Liquidity Risk: Implications

- In times of market stress, many banks are likely to look to the same contingent funding sources.
- Deposit competition has remained heightened, as many larger banks have been more actively competing for deposits.
- Continued reliance on “non-core” funding.
- Pricing and the stability of these funding sources may be adversely affected.
- Stability of uninsured deposit balances?
- Risk management practices may not be keeping pace with these changes in funding markets.

# Liquidity Risk: Implications

- The Downward Spiral of Asset Prices has trickled down to affect community and regional banks' secondary liquidity capacity in their investment portfolios:
  - Falling value of pledged assets and/or increased haircuts means less borrowing capacity.
  - Margin Calls on collateral posted for counterparty credit risk on interest rate swaps and other derivative transactions means additional securities must be posted as collateral, reducing balance of available unencumbered securities.
- **KEY IMPLICATION:** The unexpected can happen!
  - Did any institution model this scenario?

# Recent Government Actions

- The Treasury, Federal Reserve and FDIC have taken action to address issues of market liquidity, funding liquidity and confidence concerns, including:
  - TARP (Capital Program, Troubled Asset Program)
  - Federal Reserve Programs:
    - TAF, TSLF, PDCF, TOP, FX Swap lines
    - Interest on Reserves;
    - ABCP MMMF Liquidity Facility, CPFF, and MMIFF
  - FDIC Temporary Liquidity Guarantee Program
  - Temporary FDIC Deposit Insurance Increase to \$250K
- Conveniently, there is now a new window of opportunity (as most programs are temporary) for those banks that had not yet done so to enhance their liquidity risk management practices.

# Regulatory Guidance

- Recent market events further highlight the necessity of the sound liquidity risk management practices outlined in the regulatory guidance:
  - Federal Reserve – 2006
  - FDIC – 2008
  - BIS – 2000 and 2008
- Consistent with existing examination manuals, previous guidance, as well as with one another.
- Collectively send a clear message to institutions that an increased liquidity risk profile requires more robust risk management practices.

# FRB's Liquidity Guidance

- Issued in late 2006 in the *Trading and Capital Markets Activities Manual*, it did not represent new standards but expanded on existing guidance by providing more information to assist supervisors and banking institutions in dealing with a more challenging liquidity environment:
- Renewed focus on funding mismatches, market liquidity constraints and contingent liquidity events:
  - Includes a comprehensive discussion of liquidity components, providing exhibits, references, sample cash flow statements and other examples of sound liquidity risk management practices.
  - Emphasizes cash flow forecasting to manage day-to-day and contingent liquidity needs .
  - Minimizes emphasis on “static” measures and ratios.
  - Emphasizes the coordination of LRM with strategic planning.
  - Emphasizes characteristics of “stable” and “volatile” funds and minimizes discussion of “core” and “non-core” terminology.
  - Includes discussion on the unique issues in managing Parent Company liquidity.

# FDIC's Liquidity Guidance

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## **FIL-84-2008: Liquidity Risk Management**

- Stresses the importance of robust liquidity measurement and management systems
- Measurement systems should be commensurate with complexity, risk, and operational scope
  - Pro-forma cash flows/scenario analysis used with liability-based or off-balance sheet funding
  - Reliance on volatile credit systems or concentrated funding results in increased capital maintenance expectations

# FDIC's Liquidity Guidance

## Contingency Funding Plans

- Define responsibilities and authorities
- Details on monitoring for liquidity events
- Assess the potential for triggering restrictions
- Identify and assess practical and realistic contingency funding sources
- Assess events that could rapidly impact liquidity
  - Stress events, such as declining financial condition
  - Tightened collateral requirements or secured borrowing restrictions
  - Loss of large depositor or counterparty
  - Inability to securitize assets

# FDIC's Liquidity Guidance

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## **Less than Well Capitalized:**

- Brokered deposit use limited
- Limits effective yield on **ALL** deposits
- Limits set forth in part 337.6 of the FDIC Rules and Regulations
- Should be incorporated into contingency funding plans

# FDIC & FRB Liquidity Guidance

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**Both fully consistent with each other and:**

- Commercial Bank Examination Manual
- Basel Committee on Banking Supervision
  - 2000 “Sound Practices for Managing Liquidity in Banking Organizations”
  - 2008 “Principles for Sound Liquidity Risk Management and Supervision”  
(Draft for Consultation)

# Liquidity Risk Measurement

- We've seen a shift away from heavy reliance on "strict definitional" ratio analysis
- Industry changes rendered traditional ratios less insightful as they do not reflect the liquidity continuum across asset and liability categories
  - Liquid loans and illiquid securities
  - Volatile retail deposits and reliable wholesale sources
  - Additional important off-balance sheet items not incorporated into traditional measures
- We have seen how market events can affect asset liquidity and volatility of funding sources

# Emphasis on forward-looking measures: as a planning tool for expected flows

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- Incorporate expected growth, rollover rates, optionality, off-balance sheet items, seasonality, etc.
- Identify potential shortfalls across time dimensions before they crystallize
- Necessary for day-to-day management under “business as usual” conditions

# Stress Testing Scenarios

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- By definition, “business as usual” cash flow projections are not so good at measuring contingency needs caused by unforeseen events.
- The key is to recognize how scenario-specific liquidity risk really is.

*“Importantly, no single cash flow projection reflects the range of liquidity source and liquidity need circumstances that require advance planning.”*

# Incorporate a variety of stress event scenarios into forward-looking measures

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- Capture how flows may be affected in different environments
- Enable management to see what might go wrong, and how badly; reveal vulnerabilities.
- Allows for funding decisions to be made in line with liquidity risk appetite
- Evaluation of results from stress scenarios can guide crisis management planning
- Tends to produce more granular and robust analysis than any other measurement framework

# Why is stress testing so important?

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- Measurement under benign conditions only tells us so much:
  - Interconnected effects across risk categories and products and between a bank and its parent company
  - Correlations not stable under stress
- Systemic financial shocks can cause considerable damage
- Stress testing can provide information to help lower the probability and lessen the impact
- Banks ultimately fail due to liquidity risk
- Limit on capital's ability to control liquidity risk

# It Might Not Be Called a “Stress Test”

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- Robust ratios can capture many aspects of comprehensive stress-testing
  - Assign “weights” to balance sheet categories
  - Run *ratios* under stress
  - Create ratios that “mimic” stress-testing vulnerabilities: e.g. unencumbered liquid asset coverage of short-term, unsecured, uninsured funds
- Knowledge of customers/counterparties, and applying sufficient analytic rigor to the process is essential
- Regardless of the framework, a system that stratifies heterogeneous pools of assets and liabilities is key to success

# Examples of Stress Scenarios

## Institution-Specific

- Asset quality concerns
- Rapid growth
- Operational fraud
- Reputational risk
- Large loss of capital
- Credit rating downgrade (Large Banks)

## Systemic Stress

- Payment systems disruption
- Capital markets disruption
- Uncertainty in industry
- Loss of confidence in CP market
- Your worst nightmare?

# Contingency Funding Plans

Sound CFPs incorporate an effective stress testing framework with robust policies, procedures and action steps to ensure that funding requirements are met with minimal costs and disruption.

- Communicate Early Warning Indicators to Board & Senior Management
- Different levels of severity for each stress event
- Identify potential funding sources and suggest appropriate action steps under each stress scenario and level of severity
- Periodic testing of operational elements.

# Potential Issues in Successfully Executing CFP Strategies/Actions

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- Blanket Lien with FHLB presents a hurdle to pledging assets elsewhere as collateral
- Asset Sales and/or Securitization
- Brokered deposits (PCA-Well Capitalized)
- Discount Window

*Is the appropriate infrastructure in place?  
Have the plans been tested?*

# Key Points to Remember

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- Traditional Liquidity Ratios do not sufficiently provide a complete picture of risk; develop and implement forward looking measures to understand your full liquidity risk profile.
- An effective stress testing framework is the cornerstone of sound contingency funding planning.
- Be sure you have the appropriate infrastructure in place to execute the contingency funding plans.
- Test your contingency funding plans.

# Federal Reserve Discount Window Considerations

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## Overview:

- Reserve Bank Credit Programs
- Collateral Arrangements
- Pre-positioning
- Considerations for Financial Institutions Determined in Unsound Condition
  - Overnight Credit
  - Intra-Day Credit

# Federal Reserve Credit Programs

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- Reserve Bank Credit Programs
  - Primary Credit
  - Term Auction Facility
  - Secondary Credit
  - Seasonal Credit

# Collateral Arrangements

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- Securities
  - Fed Book Entry
  - DTC
- Acceptability
  - Treasury, US Agency, Municipals, Corporates
  - Investment Grade
- Margins Applied
  - Priced vs. Unpriced

# Collateral Arrangements

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- Borrower-In-Custody Program
  - The financial institution's loans to their customers
  - Application Process
  - Standards of Acceptability
  - Monthly Reporting
  - Periodic On-Site Reviews
  - Time Frames – Submission of Application to Receiving Value
  - Federal Home Loan Bank considerations

# Pre-Positioning

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- Collateral arrangements take time
- Waiting until liquidity is needed is not advisable
- All loans must be supported by collateral according to the Federal Reserve Act, i.e., “secured to our satisfaction”

# Financial Institutions That Are Determined in Unsound Condition

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- Information Sources
  - Primary Federal Bank Regulators
  - Call Reports
  - State Banking Regulators
  - “Other” Information
- No Discreet Formula
- Do Not Share Our Criteria
- FDICIA considerations

# Financial Institutions That Are Determined in Unsound Condition

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- Securities collateral
  - Decrease in margin of 10%
- Loan Collateral (e.g., BICs) - Generally
  - Loans delivered to the FRB
  - Are we secured to our satisfaction?
  - Decrease in margin of at least 10%
- Very burdensome process for FI and FRB
  - Credit Reviews
  - Documentation Reviews
  - Monthly revaluation
- We must have a secured interest in the collateral ahead of all others.

# Financial Institutions That Are Determined in Unsound Condition

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- Intra-day Credit
  - Intraday credit capacity brought to zero
  - Fedwire
  - ACH Credit Originations
  - Non Fedwire Activity

# Information Resources

Federal Reserve's *Trading and Capital Markets Activities Manual*

<http://www.federalreserve.gov/boarddocs/supmanual/trading/200704/0704trading.pdf>

FDIC's new guidance: "FIL-84-2008: Liquidity Risk Management"

<http://www.fdic.gov/news/news/financial/2008/fil08084.pdf>

SR Letter 01-14 "Joint Advisory on Rate-Sensitive Deposits"

<http://www.federalreserve.gov/boarddocs/srletters/2001/sr0114.htm>

Basel Committee on Banking Supervision: "Principles for Sound Liquidity Risk Management and Supervision (June 2008 – Draft for Consultation)"

<http://www.bis.org/publ/bcbs138.pdf>

Discount Window

- Contains all guidelines and forms necessary
- Borrower-In-Custody information under "Select Your FRB" tab

<http://www.frbdiscountwindow.org/>

FRB-SF Credit & Risk Management: toll free number 1.866.974.7475

# Program Resources

- TARP Capital Purchase Programs  
<http://www.fdic.gov/news/news/financial/2008/fil08109.html>
- Federal Reserve Programs  
<http://www.federalreserve.gov/monetarypolicy/default.htm>
- FDIC Deposit Insurance to \$250K  
<http://www.fdic.gov/news/news/financial/2008/fil08102.html>
- FDIC Temporary Liquidity Guarantee Program  
[www.fdic.gov/tlgp/](http://www.fdic.gov/tlgp/)  
<http://www.fdic.gov/news/news/financial/2008/fil08103.html>
- Emergency Economic Stabilization Act  
<http://www.treas.gov/initiatives/eesa/>

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**Questions?**  
**Comments?**

# Appendix

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Additional discussion on implementing an effective stress testing framework

# Establishing asset/liability liquidity profiles for stress-scenario analysis

- Break out assets, liabilities, and OBS (get granular)
- Establish key attributes affecting liquidity of each category
- Create a hierarchy: which liabilities are generally most sensitive and which assets are most liquid
- Assign liability sensitivities and asset haircuts (%)
- Calculate corresponding runoff and fundraising estimates under different scenarios
- Divide into time buckets
- Calculate coverage ratio (key questions to answer: are we covered? for how long? how severe until we aren't?)
- Establish limit structure, reporting schedule, documentation, internal audit, etc.

# Quantifying exposure: Where do we find the data?

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- Most banks have not lived through a high impact liquidity stress situation (good for banks, but bad for modeling)
- Firm-specific historic volatilities under benign conditions tell us little about the nature of volatilities under stress
- Unlikely to find a comparable peer with recent enough relevant experience
- Becomes a very subjective process (thus documentation is important)

# A starting point: changes observed by other banks in crisis

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**As a crisis approached and the banks dropped below investment grade, what happened to:**

- Unsecured funding as it matured
- Spreads, and ability to issue new debt (and at what tenor)
- Insured/uninsured deposit runoff
- Loan commitment drawdowns
- Ability to sell/securitize loans
- Collateral posting requirements
- Incorporate the response of analysts, depositors, counterparties, repo market, FHLB, Fed Discount Window, etc. into the numbers

# A starting point: changes observed during systemic crisis

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## **As crisis worsened and spread, what happened to:**

- Haircuts on related and unrelated asset classes
- Ability to sell and securitize loans
- Ability for ABCP conduits to roll their CP
- Payment system requirements

# Utilize benign condition funds flow framework as springboard

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- Targeting high probability – low impact events
- Often part of ALM-IRR software capabilities
- Project inflows and outflows in time buckets, identifying surplus/deficits in specific time periods
- Behavioral liquidity gap
  - Assumptions to build on :
    - CD withdrawal/renewal rates
    - Asset default/prepays, commitment draw rates
    - Tiered pricing required to attract funds

# Involve business line managers

- Tap their market/customer knowledge
- Research historic analysis and adjust for idiosyncratic factors
- Line should identify their vulnerabilities under given enterprise-wide stress events
- Should identify their “Achilles' heel” and quantify the potential affect
- Leverage existing analysis
  - Trading book's VaR, IRR-ALM modeling
  - Potential future exposure for derivatives
  - Collateral management analysis, debt issuance forecast
  - Conduits' CP/asset maturity gap measures, etc.

# For each business line/product

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- For firm-specific scenarios: is vulnerability to the downgrade itself or depend upon the cause?
- For systemic scenarios: which types of stress in which markets would cause most impact?
  - e.g. general economic downturn, specific asset class, currency collapse, payments system issue, terrorist attack, Freddie/Fannie issue, CP market disruption, etc, etc.

# Challenging Stress Testing Assumptions since the 2007 Market Disruption

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Common theme: making stress tests a little more stressful. Questioning:

- Ability to utilize a variety of funding sources
  - Extendible CP & CDs, Trust Preferred, MTNs, brokered CDs, escrows, backup facilities, etc.
- Ability to increase rates to attract liabilities
  - Basis points aren't the only cost!
- Even collateralized funding
  - e.g. term repo, covered bonds
- Revisiting static asset haircuts

# Challenging Stress Testing Assumptions since the 2007 Market Disruption

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## Questioning:

- Ramifications of bringing off-balance sheet items (commitments, sponsored vehicles) onto the balance sheet (capital, extendible CP, etc.)
- Duration of crisis
- Assumptions for retail runoff rates
- Reversing the spread between secured/unsecured
- FHLB's ability to fund unscrutinized in future crisis

# Making stress-testing an ongoing key risk indicator

- Take stress-testing out of the contingency funding plan and into the board room
- Calculate results with sufficient frequency
- Track the results over time
- Summarize assumptions and results
- Establish a monitoring system/limit structure
- Ultimate goal for large complex institutions: incorporate into an integrated enterprise-wide stress testing framework, across multiple risk categories

# Key elements of an effective stress testing framework

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## Scenarios

- Well-defined
- Tailored to the institution
- Of type that reveals vulnerabilities
- Aware of, but not overly reliant upon history
- Multiple levels of severity (rating downgrades; capital levels)
- Focus on bank-specific, systemic brought in for certain businesses

# Key elements of an effective stress testing framework

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- Centralized management of process
- Truly enterprise-wide
- Sufficiently granular
- Accounts for timing (sufficiently narrow buckets)
- Draws on business line manager knowledge for detailed assumptions
- Leverage existing analytics

# Key elements of an effective stress testing framework

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- Measures the maximum availability in any given period
- Keeps cost analysis separate
- Discount window takeout strategy
- Creates a metric easily tracked, reported frequently, etc.
- Includes a check on data integrity
- Well documented process and assumptions

# Alternatives available for companies with lower inherent risk profiles?

- Regulators are not prescribing a specific methodology; invite creativity
- Tailored to the size, complexity and sophistication of the institution
- We'll evaluate attempts to capture same insights with less data and some simplifying assumptions
- For some, their liquidity risk profile may be adequately captured despite some “shortcuts”
  - Robust ratios can capture many aspects of comprehensive stress-testing
- Striking a balance: robust enough to encapsulate key risks, simple enough to enable frequent production