## NCIF -FDIC Risk Management Webinar

Risk Management in a Flat-to-Inverted Yield Curve Scenario

National Community Investment Fund, Chicago
May 1, 2006

## NCIF Overview

## > National Community Investment Fund (NCIF)

> Nonprofit trust, federally certified Community Development Financial Institution ("CDFI") and Community Development Entity ("CDE") intermediary.
> Mission: To increase number and capacity of CDBIs that are both effective agents of local community development in distressed markets and sound financial institutions.
> Activities
> Investing
> $\$ 22$ million invested; \$38 million NMTC Funds; Third largest private investor in Community Development Banking Institutions--"CDBIs".
$>84 \%$ minority focused; $65 \%$ minority owned, $91 \%$ in certified CDFIs.
$>$ Investment products - equity, quasi equity, debt and deposits.
$>$ CDBI Exchange Network - best practices
> Risk management, valuation, corporate governance, government programs.
$>$ Development impact.
$>$ NCIF - FDIC webinar is part of this effort.

## NCIF - FDIC Webinar

## Format of Presentations

> Norm Williams, Ross Waldrop, Federal Deposit Insurance Corporation

- Background on interest rates and yield curve dynamics; relationship to economic activity.
- Historical perspectives on flat yield curve impacts on the banking sector:
- Risks associated with this market scenario
> Paul Hudson, Broadway Federal Bank, Los Angeles
- Pricing of loans and deposits
> David Oser, ShoreBank, Chicago
- Managing bond portfolio and for asset liability management
> Saurabh Narain, NCIF, Chicago
- Policy implications
> Questions and Answers - Feedback on:
- Format, content
- Topics for the future


# The Yield Curve: Implications for Economic Growth and Banking Performance 

FDIC Division of Insurance and Research

Ross Waldrop, Senior Financial Analyst Norm Williams, Chief, Economic Analysis


## Thoughts on the Yield Curve:

## What's in an interest rate?

Nominal interest rates are the sum of several non-observable or estimated components:
The real rate of return; expected inflation; expected risk of repayment; and an uncertainty premium.

The risk of repayment is minimal for U.S. Treasuries-so the UST yield curve mostly reflects real yields, inflation expectations, and uncertainty.

Inflation and uncertainty effects increase as we move further out the curve, but uncertainty effects can be present in short-term rates with "flight to quality" shocks.

## Yield curve influences

Short-term rates are largely influenced by FOMC policy rate.
Mid- and long-term rates are determined by the market's assumption about future economic growth and inflation, as well as by relative demand for risk-free assets of varying term.

Term structure as "traffic cop": long rates are anchored to short-term policy rate; arbitrage prevents oddly shaped yield curves from persisting.

## Thoughts on the Yield Curve:

## Why does the yield curve invert?

- Yield curve typically slopes upward: normal future condition is economic growth with some inflation, and at least some uncertainty (recessions and deflation are rare). Future inflation and uncertainty require a term premium to compensate investors.
- Yield curve inverts when market expectation is that short-term policy rate will need to move lower due to overly restrictive monetary policy (market expects a recession or slower growth and a moderation in inflationary pressures).
- Inverted yield curves only persist for short periods of time-the negative carry they produce is not sustainable.
- The more severe the inversion, the more restrictive the current short-term policy rate is seen to be, thus the greater the likelihood that a recession will ensue.
- 10 inversions since 1960:

1. 1960-1980s typically saw short-term rate rise more than long-term rate
2. Recent inversions mostly have been driven by declines in long-term rate
3. Recent flattening driven by rising short-rates

## Current yield curve shape looks a lot like that of 2000, the year before the last recession.



Source: U.S. Treasury

## Yield curve spreads are currently well below their historical

 averages.Various Yield Spreads as of April 28, 2006
Percentage points


Source: Federal Reserve

## Recessions have most often followed steeply inverted yield

 curves-the recent situation looks more like late 1995.10 Year Treasury Yield minus Effective Federal Funds Rate, Percent


Source: FDIC

## Recent inversions have been driven by declining long-term yields.

Yield Curve Inversions
Percentage point change in monthly average rates to maximum inversion


The largest institutions have experienced net interest margin compression.

Median Net Interest Margin
Percent


## The decline in relative NIM for the largest institutions can be attributed to a more rapid rise in funding costs.



Cost of Funding Assets
Percent


Source: FDIC

## The median NIM of residential lenders has shifted with the yield curve in recent years.

Median Net Interest Margin
Residential lenders, percent
3.60 NIM rose on lower funding costs
following Fed easing in
$2001 / 2002$ <br> \title{
When the Fed Funds rate is below small banks' average funding <br> \title{
When the Fed Funds rate is below small banks' average funding cost, large institutions have a funding cost advantage.
} cost, large institutions have a funding cost advantage.
}

Percent
AVERAGE QUARTERLY COST OF FUNDING EARNING ASSETS
FDIC-Insured Commercial Banks \& Savings Institutions


## Large institutions' asset yields track changes in short-term rates more closely.

AVERAGE QUARTERLY YIELD ON EARNING ASSETS
Percent FDIC-Insured Commercial Banks \& Savings Institutions


## Rising short-term rates can be relatively more favorable for small bank margins.

AVERAGE QUARTERLY NET INTEREST MARGINS
Percent FDIC-Insured Commercial Banks \& Savings Institutions


## Small institutions obtain much more of their funding from core deposits, but the proportion has been declining.



## Small institutions have focused on commercial borrowers, while

 large institutions have become less reliant on commercial loans.LOANS TO COMMERCIAL BORROWERS, PERCENT OF TOTAL ASSETS


## The relative riskiness of small institution portfolios has been trending upward.

RISK-WEIGHTED ASSETS, PERCENT OF TOTAL ASSETS

Percent
FDIC-Insured Commercial Banks \& Savings Institutions


## Interest Rate Risk Management

 Flat to Inverted Yield CurvePresented by: Paul C. Hudson Broadway Federal Bank<br>May 1, 2006

## First Quarter 2005

- ACTION:
- Jan 22 - raised 3mo-1yr CD rates
- REASON:
- To be rate competitive, to attract new deposits and for account retention
- Not lock in high rates on long term CDs, in case rates started to go down.
- RESULT:
- Existing customers that were not rate sensitive benefited from higher rates
- Very few new deposits because of lack of external marketing
- Deposits up $\$ 13.83$ million, primarily wholesale deposits
- Cost of deposits up 0.214\%


## First Quarter 2005

- ACTION:
- Feb 18 - purchased \$8M commercial real estate loans with adjustable rates tied to prime
- MBS purchases of $\$ 25.97$ million
- REASON:
- Prime rate was moving up so yield on assets would adjust up with movement of rates
- Internal loan production was not meeting budget
- RESULT:
- No growth in loans
- Yield on loans up 0.038\%


## Primary Spread

Primary spread = the difference between the yield on loans and the cost of deposits

- 12-31-04 3.828\%
- 03-31-05 3.653\%
- Primary spread down 0.175\%


## Second Quarter 2005

- ACTION 1:
- Apr 1 - reduced passbook 10 basis pts
- May 3 - reduced money mkt rates \& increased CD rates
- REASON:
- Passbook \& money mkt rates were high for the market
- Immediate impact of rate reduction on cost of funds
- Increased CD rates to be competitive


## Second Quarter 2005

- ACTION 2:
- June 17 reduced CD rates
- REASON:
- We realized that increasing rates was not driving deposit growth, although the increases were dramatically increasing cost of funds
- RESULT of Action 1 and 2:
- Deposits down $\$ 2$ million from 1st quarter
- Cost of deposits up $0.267 \%$ YTD
$-1^{\text {st }} \mathrm{Q}$ to $2^{\text {nd }} \mathrm{Q}$ cost of deposits up $0.053 \%$


## Second Quarter 2005

- ACTION:
- May 26 - increased loan rates
- REASON:
- Increase yield on new loans originated
- RESULT:
- Net loans down <\$2.18 million> YTD
- Yield on loans up 0.099\% YTD
- 1st Q to 2nd Q yield on loans up $0.061 \%$


## Primary Spread

- 12-31-04 3.828\%
- 06-30-05 3.661\%
- Primary spread down 0.167\%


## Third Quarter 2005

- ACTION:
- Sept 7 - reduced CD rates \& created promotional 4mo CD
- REASON:
- Further reduce cost of funds
- 4mo CD allowed us to offer competitive rate without affecting other CD customers that are not rate sensitive
- RESULT:
- Deposits up $\$ 15.46$ million YTD
- Cost of deposits up $0.317 \%$ YTD
- 2nd Q to 3rd Q cost of deposits up 0.050\%


## Third Quarter 2005

- ACTION:
- Sept 1 - increased loan rates
- REASON:
- Increase yield on new loans originated
- RESULT:
- Loans down <\$1.28> million YTD
- Yield on loans up 0.202\% YTD
$-2^{\text {nd }} \mathrm{Q}$ to $3^{\text {rd }} \mathrm{Q}$ yield on loans up $0.103 \%$


## Primary Spread

- 12-31-04 3.828\%
- 09-30-05 3.713\%
- Primary spread down 0.115\%


## Fourth Quarter 2005

- ACTION:
- Oct 25 - reduced CD rates
- REASON:
- Further reduce cost of deposits
- RESULT:
- 3rd Q to 4th Q cost of deposits up 0.007\%


## Fourth Quarter 2005

- RESULT:
- 3yr fixed hybrids originated in 4th quarter 2002 \& 2 yr hybrids originated in 2003 start to roll to adjustable rates
- Loans down <\$8.82> million for the year
- Yield on loans up 0.406\% YTD
- 3rd Q to 4th Q yield on loans up 0.204\%


## Primary Spread

- 12-31-04 3.828\%
- 12-31-05 3.909\%
- Primary spread up 0.081\%


# Risk Management in a Flat Curve Environment 

NCIF - FDIC<br>David Oser<br>Sr Vice President, Investments<br>ShoreBank



ShoreBank

## Opportunities


"Well! I think this calls
for a little celebration."

- The Fed is nearing the end of current tightening cycle.
- Interest rates are at a four-year high.
- 10-Year Treasury Rates have finally broken above 5\%.


## Mortgages

- $90 \%$ of existing $30-$ year mortgages are "out of the money" for refinancing
- But, the MBA Refi Index remains above 1,500
- Mortgage products combine high yield and cash flows.

ShoreBank

## Underlying Mortgages

- Agency CMOs: High WAC, large average mortgage size. Buy 5.50\%-6.00\% coupons at a discount.
- Whole loan CMOs: Avoid IOs.
- MBS Pools: Buy 30-year 6s at par.

ShoreBank

## Callable Agencies

- Buy high coupon discount callables in the 10-12 year sector.
- Coupons over 5.5\%
- Discount of 3-4+ points
- High yield plus appreciation potential


## Munis

- Tie up 10-15 year tax-free 4\%+ yields with call protection.
- Curve is steep vs taxables because there are no international buyers.
- Use in-state munis to collateralize public funds deposits

ShoreBank

## The Short End

- Yield play: Buy the shortest $6 \%$ yield and don't worry about the call.
- Should stay ahead of fed funds
- Buy discount 7-year balloons or discount 10-year MBS that can rise in price with a bull steepener. Avoid hybrid ARMs \& new production balloons.

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## Funding

- Reverse repos and swaps of callable CDs to get LIBOR funding
- Becoming more available to smaller institutions

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## Asset Liability Management

- It's not just the balance sheet anymore!
- No matter how you slice it, a flat curve hurts banks.
- Focus on increasing fee income and controlling operating expenses.

ShoreBank

## Risk Management

> Business Risk: Paid to Take
> Marketing, Sales, Product Development, Reputation
> Market Risk: Paid to Manage
> Interest Rates, Liquidity, Commodity, Foreign Exchange
> Credit Risk: Paid to Manage
$>$ Counterparty exposures, Investments, Loan Concentrations, Defaults
$>$ Operational Risk: Paid to Mitigate
> Loss due to fraud, operational errors, systems, controls
> Source: Riskmetrics, Digital Think

## Policy Implications

## $>$ Margin compression

$>$ Change frequency of resetting of interest rates
> Consider "stickiness" of changes in rates for deposits and loans - loans take more time to adjust
> Prepayment of expensive deposits especially brokered CDs
> Management of bond portfolio, municipal deposits and securities - analyze cost of holding
> Increase non interest income - NSF, minimum account balances, remittances, credit card, mortgage servicing.

## $>$ Liquidity - core deposit management

$>$ Brokered CD management - cost of CD vs timing of disbursement
$>$ Deposits cost money but assets generate the yield
$>$ Holding company liquidity - maturing TPS in June 2006 and hence increase in cost of borrowing
> Securitization and sale of assets to market?

## Policy Implications

## > Credit risk

$>$ Stress test the loan portfolio - interest rate risk can convert to credit risk very quickly
$>$ Analyze ability of borrowers to absorb higher interest rates and higher commodity prices
$>$ Caution with respect to floating rate or negative amortization assets
$>$ ARMS, Hybrid ARMs and Optional ARMs
$>$ Caution on high LTV or second mortgage products supported by assets which have inflated.
> Active portfolio monitoring and collection procedures
> Business risk under difficult economic scenarios recessions, negatively sloped yield curves
$>$ Analyze impact of systemic risk on different asset categories
> Commercial real estate loans
> Personal and auto loans
> Business loans
$>$ Repayment capacity and residual values
$>$ No one expected the S \& L crisis of the 1980s

## Policy Implications

## > Risk Management = Increase shareholder value

$>$ Job of CEO to take measured risks to increase revenues, reduce cost and add shareholder value
> Setting limits on potential losses - don't bet the bank.
$>$ Constantly transform in line with changes in market conditions

## Tools - Use vs Complexity

|  | Static Gap | Simulation | Market value | Value at Risk |
| :--- | :---: | :---: | :---: | :---: |
|  | Rate or maturity |  |  |  |
| Complexity | 1 | 2 | 2 | 4 |
| Foundation | Accrual accounting | Scenario analysis | Present value | Statistics |
| Critical Assumption | Rate shock | Growth, asset <br> liability mix | Yield Curve, Cash <br> flows | Correlations, <br> volatilities |
| Best for | Simple, stable <br> balance sheet risk | Scenarios, <br> Budgeting | Longer term heding | Trading book, EVE |

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