Today’s Discussion

- IRR Advisory Review
- Parallel vs. Non Parallel Rate Shocks
- Calculating Results
- Today’s Non Parallel Rate Scenarios
- Examiner Expectations
- Understand and Explain the Results

Advisory on IRR January 2010

- Pro-forma I/S and B/S
- Dynamic and Static Simulations
- Rate Shock Requirements
  - Instantaneous and significant changes in rates – up to 400BP
  - Substantial changes in rates over time – 24 months
  - Changes in the relationships between key market rates
  - Change in the slope and shape of the yield curve
  - Measure the earnings at risk and value at risk
- Not all institutions require full range of scenarios
- Make measurement relevant to the complexity
FFIEC IRR Advisory

“. . . In many cases, static interest rate shocks consisting of parallel shifts in the yield curve of plus and minus 200 basis points may not be sufficient to adequately assess an institution’s IRR exposure. As a result, institutions should regularly assess IRR exposures beyond typical industry conventions, including changes in rates of greater magnitude (e.g., up and down 300 and 400 basis points) across different tenors to reflect changing slopes and twists of the yield curve.”

$47M Bank Exam Comments

- No Nonparallel Rate Shock as required by 1996 SOP and 1/10 Advisory
- No 24 month earnings simulation as required by 1/10 Advisory

Parallel Rate Shock
Non-Parallel Rate Shock (Yield Shock)

Why Do Non-Parallel?
- Rates don’t change in unison
  - Change in direction can be different
  - Magnitude of change can be different
  - Timing of change can be different
- More realistic forecast
  - What will the yield curve will look like next?
  - More useable information for management
  - Could be a variety of possibilities

Non-Parallel Rate Shock
What Yield Curve Shifts to Test?

- Make an educated guess on what to test
- Manually change offer rates on your IRR model
- Calculate the base 12/24 month margin and EVE
- Repeat for each shift desired
- How much change for each index rate?
- Regression Analysis on historical rates
- Eight pre-constructed yield curves
  - Likely yield curve scenarios given current environment
  - Unlikely scenarios
  - Relationships between rates as rates change
- Extension of the Risk Compass Report
- Automated, Push-Button Results!

Non Yield Curve Rates

<table>
<thead>
<tr>
<th>Coefficient of Multiple</th>
<th>Non-Yield Curve Rates</th>
<th>Determination (BP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRIME</td>
<td>98.70%</td>
</tr>
<tr>
<td></td>
<td>1 mo LIBOR</td>
<td>98.00%</td>
</tr>
<tr>
<td></td>
<td>3 mo LIBOR</td>
<td>98.51%</td>
</tr>
<tr>
<td></td>
<td>6 mo 1 H/C</td>
<td>98.57%</td>
</tr>
<tr>
<td></td>
<td>30 day CP</td>
<td>98.47%</td>
</tr>
<tr>
<td></td>
<td>50 day CD</td>
<td>98.77%</td>
</tr>
<tr>
<td></td>
<td>30 yr Fixed</td>
<td>91.68%</td>
</tr>
<tr>
<td></td>
<td>Corp Aaa</td>
<td>91.42%</td>
</tr>
<tr>
<td></td>
<td>Corp Baa</td>
<td>67.54%</td>
</tr>
<tr>
<td></td>
<td>State &amp; Local</td>
<td>79.81%</td>
</tr>
<tr>
<td></td>
<td>119 Origint COFI</td>
<td>92.92%</td>
</tr>
</tbody>
</table>

Simple Calculation - NIM

<table>
<thead>
<tr>
<th>Field Curve</th>
<th>0.13%</th>
<th>0.18%</th>
<th>0.57%</th>
<th>1.18%</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 M T-Bill</td>
<td>21,000</td>
<td>42,000</td>
<td>105,000</td>
<td>210,000</td>
</tr>
<tr>
<td>6 M T-Bill</td>
<td>50,000</td>
<td>100,000</td>
<td>200,000</td>
<td>400,000</td>
</tr>
<tr>
<td>1 Y CMT</td>
<td>100,000</td>
<td>200,000</td>
<td>400,000</td>
<td>800,000</td>
</tr>
<tr>
<td>2 Y CMT</td>
<td>275,000</td>
<td>550,000</td>
<td>1,100,000</td>
<td>2,200,000</td>
</tr>
<tr>
<td>Base Income</td>
<td>533</td>
<td>1,090</td>
<td>2,570</td>
<td>3,180</td>
</tr>
<tr>
<td>2% Expense</td>
<td>1,065</td>
<td>2,180</td>
<td>2,145</td>
<td>-5,751</td>
</tr>
<tr>
<td>Margin</td>
<td>1,622</td>
<td>0.65%</td>
<td>0.39%</td>
<td>1.07%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field Curve</th>
<th>2.00%</th>
<th>2.00%</th>
<th>1.63%</th>
<th>1.07%</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 M T-Bill</td>
<td>533</td>
<td>1,090</td>
<td>2,200</td>
<td>2,250</td>
</tr>
<tr>
<td>6 M T-Bill</td>
<td>1,065</td>
<td>2,180</td>
<td>2,145</td>
<td>-5,390</td>
</tr>
<tr>
<td>1 Y CMT</td>
<td>683</td>
<td>0.25%</td>
<td>0.26%</td>
<td>0.68%</td>
</tr>
<tr>
<td>2% Expense</td>
<td>1,065</td>
<td>2,180</td>
<td>2,145</td>
<td>-5,390</td>
</tr>
<tr>
<td>Margin</td>
<td>683</td>
<td>0.25%</td>
<td>0.26%</td>
<td>0.68%</td>
</tr>
</tbody>
</table>
Actual Bank Results: Traditional Analysis

Selected NPRS vs. +100BPS

Selected NPRS vs. +100BPS
Results: NPRS vs. +100BPS
12 month forecast

<table>
<thead>
<tr>
<th></th>
<th>Flattened</th>
<th>Case BC</th>
<th>Plan 100 BC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>74,174,670</td>
<td>75,091,770</td>
<td>76,568,700</td>
</tr>
<tr>
<td>Income</td>
<td>91,635,040</td>
<td>92,125,620</td>
<td>102,989,900</td>
</tr>
<tr>
<td>Expense</td>
<td>23,460,360</td>
<td>17,033,850</td>
<td>26,421,200</td>
</tr>
<tr>
<td>Net Income</td>
<td>74,174,670</td>
<td>75,091,770</td>
<td>76,568,700</td>
</tr>
</tbody>
</table>

Earnings Change: 
- 917,096 (-1.22%) 
- 0 (0.00%) 
- 1,476,928 (1.97%) 
- 4,005,592 (5.33%) 
- 6,744,408 (8.98%)

| Interest | 74,174,670| 75,091,770| 76,568,700 |
| Expense  | 23,460,360| 17,033,850| 26,421,200  |
| Net Income| 74,174,670| 75,091,770| 76,568,700 |

Non-Parallel Scenarios

Likely vs. Unlikely
EVE Simulation

Parallel Rate Shock: Earnings at risk (5%) per 100BPS
Value at risk (10%) per 100BPS
Well capitalized, strong earnings

Non-Parallel:
- Varies by yield curve
- Weighted by balance sheet mix
- Start with 15% of earnings, 30% of MVE

IRR Policy Guidelines

- 12 month RSA/RSL Min .75 Max 1.5
- Parallel Rate Shock:
  - Earnings at risk (5%) per 100BPS
  - Value at risk (10%) per 100BPS
  - Well capitalized, strong earnings
- Non-Parallel:
  - Varies by yield curve
  - Weighted by balance sheet mix
  - Start with 15% of earnings, 30% of MVE
Wrap Up Discussion

- Make IRR analysis relevant to your own needs
- For Non-Parallel Rate Shocks
  - Create likely and unlikely scenarios based upon current Treasury Yield Curve.
  - Likely Scenarios use Blue Chip Financial Forecasts® or other third party interest rate forecast.
  - Unlikely Scenarios
    - Stress environments should include short term and long term shifts of current Yield Curve of at least 400 BPS
    - Statistically based and will change over time based on current Treasury Yield Curve

Questions?

Tom Parsons
Vice President Business Development
Plansmith Corporation

Tom Parsons has worked in the financial services industry for more than twenty years. As Vice President of Business Development for Plansmith Corporation his roles include driving consultative sales and marketing strategy as well as providing advisory services on interest rate risk to the client base.

Plansmith has a long track record of delivering interest rate risk, planning and forecasting software solutions to the financial services industry. Many of the top financial services companies have turned to Plansmith’s unique software products to support the asset-liability and liquidity analysis, forecasting and risk management functions within their organizations.

Prior to Plansmith, Tom held the position of Area Vice President with Open Solutions, Inc. where he was responsible for financial and managerial accounting product sales to new and existing Open Solutions clients. Tom also held a variety of positions with Financial Technology, Inc. (an Open Solutions acquisition) including Director of Product Management during which he had strategic and development oversight of the profitability and Asset/Liability Management software systems. As an industry professional, Tom directed the risk, liquidity analysis and lending functions for a large wholesale funding and services organization. He began his career in the areas of commercial and retail lending, portfolio analysis and profitability management. Tom regularly leads seminars for a number of trade organizations including Financial Managers Society, S&L and 450s. He is a frequent guest speaker at user group meetings and trade conferences.