Forecasting Income Statements & Balance Sheets Using Industry Data
Brian Poi – Director of Specialized Modeling

Brian develops a variety of credit loss, credit origination and deposit account models for use in both strategic planning and CCAR/DFAST environments.

Brian provides thought leadership and guidance on the use of advanced statistical and econometric methods in economic forecasting applications.

He received his PhD and MA in economics from the University of Michigan after graduating magna cum laude from Indiana University.
Agenda

» Current Challenges and Our Solution: Bank Call Report Forecasts
» Forecast Methodology for Income Statements and Balance Sheets
» Examples: Bank Forecasts Under Baseline and Stress Scenarios
Current Challenges

» With banks’ credit models having achieved sufficient rigor, regulators are shifting their attention to Pre-Provisional Net Revenue (PPNR) modeling.

» Often difficult to produce reliable forecasts projections based on sparse internal data and the influence of idiosyncratic factors.

» Creating timely, credible and transparent projections require:
  – Forecasts to be consistent with the macro assumptions.
  – Modeling techniques that fully account for cyclical economic factors.
  – Fully documented and transparent.
Robust Solution: Bank Call Report Forecasts

Econometric forecasts of income statement and balance sheet under trusted scenarios based on FDIC Call Report data.

» Industry models more accurately capture the effects of macroeconomic variables.

» Bank-level models more realistically assess bank-specific factors affecting portfolio.

» Overcomes limitations due to sparse/noisy data influenced by bank-specific factors.
  - History back to 1992, spanning several expansions and recessions.
  - Eliminates internal factors such as management actions and M&A activity.

» Ability to forecast performance for individual competitors and peer groups.
# Full Range of Economic Scenarios

Moody’s Analytics trusted economic scenarios:

<table>
<thead>
<tr>
<th>Code</th>
<th>Scenario</th>
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<th>Scenario</th>
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<tbody>
<tr>
<td>BL</td>
<td>Baseline / Most Likely</td>
<td>S5</td>
<td>Below-Trend Long-Term Growth</td>
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<td>S1</td>
<td>Stronger Near-Term Rebound</td>
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<td>Oil Price Increase, Dollar Crash</td>
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<td>S2</td>
<td>Slower Near-Term Recovery</td>
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<td>S3</td>
<td>Moderate Recession</td>
<td>CV</td>
<td>Constant Severity</td>
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<tr>
<td>S4</td>
<td>Protracted Slump</td>
<td>CS</td>
<td>Consensus Scenario</td>
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Or expanded scenarios based on the Fed’s projections:

- FB Fed Baseline Scenario
- FA Fed Adverse Scenario
- FSA Fed Severely Adverse Scenario
One Solution for Multiple Applications

Regulatory Stress Testing
» More accurate stress testing of the entire balance sheet and income statement.
» Industry benchmarks for internally-generated models.

Capital Planning
» Can be used to guide capital planning and budgeting.
» Make more informed enterprise risk management decisions.

Strategic Planning
» Evaluate portfolio growth and market share vs. the industry to identify strengths, risks and opportunities.
» Inform M&A decisions based on a better understanding of value vs. the industry.
Accurate Approach to Bank-level Forecasts

Industry PPNR forecasts combined with forecasts of the bank’s market share produce more accurate bank-level projections of sales and volume.
**Robust Forecasting Methodology**

Data sourced from FDIC Statistics on Depository Institutions (call report) database.

Granular approach emphasizes internal forecast consistency across components.

Forecasts based on Moody’s Analytics US Macro model for more than 1,800 economic variables consistent with the latest CCAR scenarios.

Forecasts updated quarterly.

Scenarios updated monthly.

### Income Statement Categories
- Net interest margin
- Interest income
- Interest expense
- Non-interest income
- Non-interest expense

### Asset Categories
- Total assets
- Bank credit - Securities, C&I, Mortgage, Consumer
- Cash
- Interbank loans
- Trading gains
- Loan & lease losses

### Liability Categories
- Total liabilities
- Deposits
- Bank borrowing
- Trading losses
- Net due to related foreign offices
Peer Group Analysis

Forecast financials based on a subset of your peers.

» Facilitates evaluation and forecasting of a bank’s competitive landscape.

» Custom peer groups can be defined by geography or from a list identified by the bank.

» Peer group forecasts can be used to form individual bank shares and forecasts.
Central Texas Peer Group and Industry Assets

$ bil

Sources: FDIC Statistics on Depository Institutions, Moody's Analytics
Peer Group Assets as a Share of Industry

Pct.

Sources: FDIC Statistics on Depository Institutions, Moody's Analytics
Net Loan and Lease Share Forecasts

Pct. of Peer Group

Sources: FDIC Statistics on Depository Institutions, Moody's Analytics
FNB Texas Net Loans and Leases Forecast

$ mil

Sources: FDIC Statistics on Depository Institutions, Moody’s Analytics
Extraco Net Loans and Leases Forecast

$ mil

Sources: FDIC Statistics on Depository Institutions, Moody's Analytics
Moody’s Analytics Bank Call Report Forecasts

Econometric forecasts of income statement and balance sheet under trusted scenarios based on FDIC Call Report data.

» Forecasts at the industry, individual bank, and peer group level.

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» Ability to forecast performance for individual competitors and peer groups.
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