

**RATE SENSITIVITY**

**Expanded Analysis Decision Factors**

*This section evaluates the significance of deficiencies or other specific concerns identified in the Core and Expanded Analyses. Click on the hyperlinks found within each of the Expanded Analysis Decision Factors to reference the applicable Expanded Analysis Procedures. If needed, proceed to the accompanying [Impact Analysis](#).*

**E.1. Are management deficiencies immaterial to the oversight of the bank's interest rate risk (IRR) posture? Refer to Expanded Analysis [Procedures #1-11](#).**

**E.2. Is the level of IRR immaterial to the overall condition of the bank? Refer to Expanded Analysis [Procedures #1-11](#).**

<b>RATE SENSITIVITY</b>
<b>Expanded Analysis Procedures</b>

*Generally, procedures used in the Expanded Analysis should target concerns identified in the Core Analysis and Decision Factors. The flexible procedures specified for the Core Analysis also apply to the Expanded Analysis. The procedures in the Expanded Analysis section focus on identifying risk exposures, verifying significant risks, and determining the capabilities and reliabilities of the internal measurement systems.*

<b>IRR Profile and Exposure Considerations</b>
--

- 1. Identify significant factors that contribute to IRR exposures and the bank’s risk profile. Consider information from:**
- Supervisory IRR monitoring reports (FDIC: IRRSA),
  - Balance sheet and account data,
  - Internal IRR reports,
  - Strategic and business plans,
  - Product pricing guidelines,
  - Hedging or derivative activity, and
  - Other examination findings.

- 2. Identify factors that contribute to elevated risk exposures. Consider the following:**
- Long-term, fixed-rate assets;
  - Variable rate loans or securities with extended repricing intervals (more than two years);
  - Investment securities and associated unrealized gains and losses;
  - Trading portfolio activities;
  - Other funding sources;
  - Nonmaturity deposits;
  - Option risk (stemming from callable bonds, mortgage-backed securities, structured notes, mortgage loans, nonmaturity deposits, complex wholesale borrowings, or derivatives);
  - Off-balance sheet derivatives (interest rate swaps, futures, forwards, or options);
  - Other basis and yield curve risks in on- and off-balance sheet products;
  - Mortgage banking activities (including mortgage servicing assets);
  - Fee income levels; and
  - Product pricing strategies.

- 3. Assess price risks that could arise from changing market interest rates. Consider the following:**
- Security valuations and potential changes to accumulated other comprehensive income,
  - Gains and losses on the sale of mortgage loans and the possible effect on other income, and
  - Mortgage servicing asset valuations and the potential effect on earnings and capital.

<b>Internal Measurement System Capabilities</b>
<p><b>4. Assess the IRR measurement system.</b></p> <ul style="list-style-type: none"> <li>• Review a summary description of system capabilities, procedures manual for system, vendor updates on purchased systems, and other applicable documentation;</li> <li>• Verify that the system contains the components and updates needed to generate applicable and accurate measurements commensurate with the types of IRR assumed; and</li> <li>• Discuss the system’s capabilities, limitations, and assumptions with management.</li> </ul>
<p><b>5. Discuss whether the IRR measurement system sufficiently captures all material IRR positions and enables management to identify risks arising from existing activities and new business initiatives. Consider the following attributes:</b></p> <ul style="list-style-type: none"> <li>• Static and dynamic rate scenarios,</li> <li>• Severity of modeled stress scenarios, and</li> <li>• Details of the measurement system input and output.</li> </ul>
<b>Internal Measurement System Data and Assumptions</b>
<p><b>6. Review the internal control system relative to data and assumptions used by the IRR measurement system.</b></p>
<p><b>7. Evaluate data inputs for the IRR measurement system to determine the accuracy of baseline instrument characteristics and data aggregation practices.</b></p> <ul style="list-style-type: none"> <li>• Review account data for larger, more complex account categories such as: <ul style="list-style-type: none"> <li>○ Contractual coupon rates and formulas,</li> <li>○ Current balances,</li> <li>○ Coupon reset dates,</li> <li>○ Scheduled principal payments,</li> <li>○ Scheduled interest payments,</li> <li>○ Caps and floors, and</li> <li>○ Maturities.</li> </ul> </li> <li>• Review the data aggregation process to assess whether it reasonably portrays the bank’s cash flow characteristics.</li> <li>• Determine whether base case interest rates and market values are accurate.</li> </ul>

**8. Review information regarding all key assumptions including supporting documentation, board and committee minutes, vendor or consultant reports, and independent reviews of the IRR program. Determine whether:**

- Interest rate forecasts are consistent with other forecasts used throughout the bank’s planning processes and include increasing and decreasing rate environments,<sup>1</sup>
- Driver rates are supported and accurately applied,
- Reinvestment rates are reasonable and consistent with other bank forecasts,
- Nonmaturity deposit sensitivity factors (betas) are adequately supported with documented analysis,<sup>2</sup>
- Prepayment forecasts reasonably estimate unscheduled principal cash flows from amortizing instruments, and
- Growth estimates reflect the strategic goals and forecasts used in the strategic planning process.

**Internal Measurement System Results and Validation**

**9. Determine whether system reports are timely and identify:**

- Material risk exposures and sources,
- IRR levels expressed in measures that correspond to the board’s risk limits,
- Trends in IRR exposure, and
- Deviations from policy risk limits.

**10. Review the results of the IRR measurement system for the current period and a sample of prior periods. Pay particular attention to results that:**

- Indicate risk exposures exceed board established risk limits;
- Demonstrate increasing risk trends, or rapid growth in risk exposure;
- Illustrate risks different from those identified by historical financial analysis; and
- Suggest that the system contains obvious flaws or deficiencies.

**11. Review internal control procedures to determine whether the IRR measurement system’s prior forecasts reasonably estimated actual performance by comparing:**

- Past system results to actual results (i.e., back testing);
- Market value assumptions to observable market prices; and
- The bank’s measurement system results to the independent reviewers’ or internal or external auditors’ measurement systems results (i.e., challenger-model or parallel-model runs).

<sup>1</sup> Satisfactory forecasts generally provide useful results that consider potential interest rate shocks, yield curve risks, and basis risk.

<sup>2</sup> IRRSA provides historical nonmaturity deposit analysis measures for examiner review.

**End of Expanded Analysis. If needed, Continue to [Impact Analysis](#).**

<b>RATE SENSITIVITY</b>
<b>Impact Analysis Procedures</b>

*Impact Analysis reviews the impact that deficiencies identified in the Core and Expanded Analysis and Decision Factors have on the bank's overall condition, and directs the examiner to consider possible supervisory options.*

<b>Impact Analysis Procedures</b>
<p><b>1. Determine the effect of IRR levels and risk management deficiencies on earnings, liquidity, capital, and sensitivity to market risk, and assess the future impact if the deficiencies continue.</b></p>
<p><b>2. Document deficiencies of the internal measurement system, such as design flaws, quantitative errors, data inaccuracies, unreasonable or unsupported assumptions, and reporting weaknesses. Attempt to resolve deficiencies with management during the examination.</b></p>
<p><b>3. Discuss IRR deficiencies with management, and assess management’s plans to address deficiencies in IRR exposure, risk management, internal control, and independent review.</b></p>
<p><b>4. Determine whether the severity of weaknesses warrant citing nonconformance with the <i>Interagency Guidelines Establishing Standards for Safety and Soundness</i><sup>3</sup> in the ROE.</b></p>
<p><b>5. Consider recommending an accelerated IRR limited scope review if management’s efforts to rectify deficiencies should be verified before the next regular safety and soundness examination.</b></p>
<p><b>6. Determine the need for administrative and enforcement actions, formulate specific recommendations, and advise the appropriate supervisors on the nature of the concerns. Identify specific recommended provisions for potential actions.</b></p>
<p><b>7. If appropriate and after obtaining appropriate supervisory approval, discuss the possibility of administrative and enforcement actions with executive management and the board of directors.</b></p>

<sup>3</sup> Refer to 12 CFR Part 364, Appendix A (FDIC) or 12 CFR Part 208, Appendix D-1 (FRB).

Impact Analysis

**8. Investigate potential recommendations for civil money penalties.**

**End of Impact Analysis.**