RATE SENSITIVITY

Core Analysis Decision Factors

Examiners should evaluate the Core Analysis in this section to determine whether an Expanded Analysis is necessary. Click on the hyperlinks found within each of the Core Analysis Decision Factors to reference the applicable Core Analysis Procedures.

Do Core Analysis and Decision Factors indicate that risks are appropriately identified, measured, monitored, and controlled?

C.1.	**Do the bank's assets, investments, deposits, other funding sources, and financial derivatives present a low or well-controlled level of interest rate risk?** ***Refer to Core Analysis Procedures #1-5.***
C.2.	**Have adequate corporate governance processes (policies, procedures, risk limits, and strategies) been established?** ***Refer to Core Analysis Procedures #6-12.***
C.3.	**Are internal measurement processes and systems adequate? Refer to Core Analysis** ***Procedures #13-16.***
C.4.	**Are model inputs and management's assumption development process adequate?** ***Refer to Core Analysis Procedures #17-18.***
C.5.	**Are the audit and internal control functions adequate?** ***Refer to Core Analysis Procedures #19-21.***
C.6.	**Has an effective independent review function been established?** ***Refer to Core Analysis Procedures #22-25.***
C.7.	**Are management information systems and reporting adequate?** ***Refer to Core Analysis Procedures #26-28.***
C.8.	**Is the level of risk reasonable relative to capital and earnings levels?** ***Refer to Core Analysis Procedure #29-32.***
C.9.	**Do the board and senior management effectively supervise this area?** ***Refer to Core Analysis Procedure #33-36.***

RATE SENSITIVITY

Core Analysis Procedures

Examiners are to consider these procedures but are not expected to perform every procedure at every bank. Examiners should complete only the procedures relevant for the bank's activities, business model, risk profile, and complexity. If needed, based on other identified risks, examiners can complete additional procedures. References to laws, regulations, supervisory guidance, and other resources are not all-inclusive.

References

- ***Joint Agency Policy Statement: Interest Rate Risk, SR 96-13 (FRB) or FIL-52-96 (FDIC)***
- ***Advisory on Interest Rate Risk Management, SR 10-1 (FRB) or FIL-2-2010 (FDIC)***
- ***Interagency Advisory on Interest Rate Risk Management Frequently Asked Questions, SR 12-2 (FRB) or FIL-2-2012 (FDIC)***
- ***Managing Sensitivity to Market Risk in a Challenging Interest Rate Environment, FIL-46-2013 (FDIC)***

Preliminary Review

1. **Review prior examination reports, supervisory reviews, and file correspondence to identify prior rate sensitivity concerns. Also review internal or third party audits and reviews to identify any concerns or recommendations.**

2. **Review board or committee minutes and information packets for evidence of oversight, responsibility, routine management reports, and any identified rate sensitivity concerns.**

3. **Determine whether there are recent or planned changes in strategic direction and discuss with management the implications for rate sensitivity risks.**

4. **Review offsite analytical reports (FDIC: IRRSA) to develop a preliminary assessment of rate sensitivity trends and risks.**

5. **Review UBPR, Call Report, balance sheet, and income statement data to develop an initial rate sensitivity profile. Note common risk areas such as:**
   - **Shifts in long-term assets and long-term liabilities;**
   - **Mortgage loan exposure (direct or indirect through mortgage-backed investments);**
   - **Mortgage servicing assets;**
   - **Significant securities depreciation;**

- **Structured notes;**
- **Fluctuations in nonmaturity deposits; and**
- **Hedging activities, such as rate swaps, forwards, futures, options, or other derivative products.**

Policies, Procedures, and Risk Limits

6. Review asset/liability management (ALM) policies. Policy guidance may be incorporated in liquidity, loan, investment, interest rate risk (IRR), or other policies, but taken as a whole, should be assessed to determine whether they provide sufficient guidance to management relative to the board's risk tolerances and oversight responsibilities. Policy formality and sophistication will vary, depending on the level of risk and the complexity of holdings and activities. In general, satisfactory policies:

- **Assign authority and responsibility to an individual(s) or committee for establishing and maintaining an effective ALM program that identifies, measures, monitors, and controls IRR within board-approved limits;**
- **Identify the types of instruments and activities that may be used to manage IRR exposure;**
- **Provide for comprehensive measurement systems commensurate with the size and complexity of the institution for valuing positions and assessing performance, including procedures for updating model scenarios and underlying key assumptions;**
- **Require regular, detailed reporting that informs management and the board of IRR exposures;**
- **Outline the process and responsibility for sensitivity testing of critical model assumptions;**
- **Require periodic back testing of model projections and analysis of significant variances;**
- **Establish earnings and capital exposure limits commensurate with the board's risk tolerance;**
- **Require management to factor IRR into broader risk management considerations and strategic decisions to ensure interrelationships between IRR and other risks are considered and addressed;**
- **Require the board or a designated committee to periodically review and approve the policy, risk limits, and strategies;**
- **Assign responsibility for authorizing policy exceptions, and require documentation of the rationale for authorizing such exceptions; and**
- **Provide the asset/liability committee (ALCO), or a similar committee, with sufficient representation across major functions that influence IRR exposure.**

7. Determine whether the board or a delegated committee oversees the establishment, approval, implementation, and annual review of IRR management strategies, policies, procedures, and risk tolerances.

8. Discuss IRR management processes and practices with management. Review ALCO meeting minutes and packages to evaluate the process. Potential topics to discuss include:

- **Lines of responsibility and authority for IRR management;**
- **Development of IRR policies and practices;**
- **IRR measurement system and measurements used (e.g., gap, income simulation, economic value of equity);**

- **Assumptions used in the IRR measurement system (e.g., asset prepayments, deposit price sensitivity, decay rates, growth rates) and adjustments to key assumptions;**
- **Management's understanding of the underlying analytics and methodologies of the IRR model;**
- **Board and management understanding of model assumptions, particularly if developed by third parties;**
- **Strategies to manage IRR (e.g., cash flow or duration matching, altering balance sheet composition, hedging with derivatives);**
- **Technical expertise of staff relative to product offerings, IRR management strategies, and the complexity of the IRR measurement system; and,**
- **Board and management understanding of embedded risk characteristics (e.g., basis risk, option risk).**

9. If IRR management processes include hedging with derivatives, determine whether policies outlining hedging strategies include:

- **Requirements to analyze market, liquidity, credit, and operating risks;**
- **Requirements regarding the expertise and experience of personnel involved in implementing and monitoring derivative hedging strategies;**
- **Permissible strategies and types of derivative contracts;**
- **Risk limits for hedging activity such as position limits (gross and net), maturity parameters, and counterparty credit guidelines;**
- **Names of individuals or positions authorized to initiate hedging transactions and their limits of authority;**
- **Requirements for monitoring hedging activity and ensuring activities fall within approved limits and lines of authority; and**
- **Descriptions of how management will ensure compliance with technical accounting guidance that governs hedging activity, most notably ASC Topic 815.**

10. Determine whether management uses static balance sheet modeling to assess baseline IRR exposure. Refer to the 1996 Joint Agency Policy Statement on IRR and the 2010 FFIEC Advisory on IRR Management for further information on balance sheet modeling.

11. Determine whether management uses IRR modeling to evaluate large-scale shifts in strategies, product offerings, or significant concentrations.

12. Assess whether procedures and risk limits are reasonable relative to economic conditions and the condition of the bank. Determine whether management:

- **Evaluates the potential effect on income and capital levels when establishing risk limits;**
- **Reviews limits at least annually (and more frequently if the bank's financial condition, strategic direction, or products and services are changing); and**

- **Considers the risks and potential rewards of adverse and favorable rate movements when establishing an IRR position or strategy.**

Measurement System Capabilities

13. Determine whether the measurement system contains the functionality (and is updated as needed) to adequately assess risk exposures.

14. Determine whether the IRR measurement system captures and reports material on- and off-balance sheet positions. Consider the level of detail in charts of account, data input, and output reports.

15. Determine whether the IRR measurement system measures the potential effect of changes in market rates on both earnings and capital.

16. Assess the IRR measurement system's capabilities to provide meaningful stress-test simulations applicable to the institution. Consider the following:

- **Instantaneous and significant rate shocks (considering the current rate environment);**
- **Substantial changes in rates over time (prolonged rate shocks exceeding periods of 1 year);**
- **Changes in the relationships between key market rates (i.e., basis risk); and**
- **Nonparallel yield curve shifts (e.g. steepened, flattened, and inverted yield curves).**

Assumptions and Data Inputs

17. Assess management's process for developing and reviewing key scenarios and assumptions. Consider the documentation, monitoring, and update procedures. Typical key assumptions include:

- **Asset prepayment speeds,**
- **Nonmaturity deposit price sensitivities,**
- **Nonmaturity deposit decay rates or average life, and**
- **Key/driver rates.**

18. Assess the reasonableness and support for key assumptions, including sensitivity analysis used in identifying those assumptions with the most influence on model output.

Internal Controls
19. Determine whether management established sufficient lines of authority and separation of duties, or comparable controls, over the development and use of measurement systems and monitoring tools.
20. Determine whether IRR reports are reviewed by senior management and the board at least quarterly.
21. Determine whether management complies with internal policy parameters, documents the reasons for variances, and details any action plans initiated. If applicable, discuss the board's oversight and approval of variances and related mitigating actions.
Independent Review
22. Determine whether management provides for an adequate independent review of the IRR measurement process.
23. Determine whether the independent review includes an adequate scope (certain aspects may have been completed by internal audit or an external model validation). Adequate scopes generally include assessing items such as the: • **Adequacy of, and compliance with, policies and procedures;** • **Suitability of the measurement system given the size and complexity of activities;** • **Appropriateness of rate scenarios used;** • **Validity of risk measurement calculations; and** • **Reasonableness and accuracy of assumptions and data inputs, including back testing.**
24. Determine whether the results of annual independent reviews are promptly reported to the board, or a committee thereof. Determine whether management reviewed and reported the results of any validation performed on the IRR model used.
25. If recent reviews disclosed any deficiencies, or if back testing has shown past estimates deviated significantly from actual performance, assess whether management responses are reasonable and timely.

Reporting and Communication Systems
26. Determine whether internal reports provide sufficient information for ongoing IRR management decisions and for monitoring the results of those decisions. Reports generally contain sufficient detail for the board and senior management to: • **Analyze IRR levels and trends and estimate the potential effect on earnings and capital;** • **Identify material risk exposures and sources;** • **Evaluate key assumptions, including interest rate forecasts, deposit behaviors, and loan prepayments;** • **Make pricing decisions;** • **Verify compliance with internal risk limits and policy guidelines, and to monitor policy exceptions; and** • **Assess IRR sensitivity in base-case and changing rate scenarios.**
27. Determine whether interest rate risks are communicated to relevant operational and oversight personnel.
28. Test reports for accuracy by comparing results with regulatory reports and internal records.
Risk Exposure Considerations
29. Determine the level of IRR and assess the potential effect on the institution's risk profile. Consider IRR trends that, while still within established risk tolerances, may indicate an increasing risk profile.
30. Compare the earnings projections used in the IRR measurement systems to management's budget. Determine the magnitude of any differences and the reason for the differences. Determine the extent management relies on IRR projections and uses them in strategic and capital planning.
31. Determine whether recent or anticipated changes or trends in the balance sheet composition alter the IRR profile relative to historical data. When significant structural changes have or are expected to occur, de-emphasize historical analysis and focus on current and forecasted balance sheet composition. Significant structural changes may include: • **Major shifts in the maturity or repricing characteristics of investments, loans, borrowings, or deposits;** • **Increased holdings of financial instruments, such as mortgage securities, callable securities, fixed-rate residential loans, and structured notes;** • **Fundamental changes in liability mix between deposit categories and other funding sources;** • **Unexpected changes in level or trend of securities appreciation and depreciation; and** • **Adoption of, or an increase in, the volume of derivative or hedging instruments.**

32. Analyze changes in the net interest margin and net operating income relative to:

- **Market interest rate fluctuations,**
- **Reliance on rate-sensitive noninterest income activities (such as mortgage banking activities),**
- **Earnings and capital levels, and**
- **Strategies to manage the effect of the changes on earnings and capital.**

Oversight & Risk Mitigation

33. Determine whether the board understands and is regularly informed about the level and trend of IRR. Consider the following board responsibilities:

- **Setting the tolerance level for IRR, consistent with the bank's risk profile,**
- **Identifying lines of authority and responsibility for managing risk,**
- **Ensuring adequate resources are devoted to IRR management,**
- **Monitoring the overall IRR profile, and**
- **Ensuring that IRR is prudently managed.**

34. Determine whether senior management ensures that board-approved strategies, policies, and procedures for managing IRR are appropriately executed within the designated lines of authority and responsibility. Consider the following management responsibilities:

- **Implementing detailed reporting processes to inform senior management and the board of the level of IRR;**
- **Maintaining comprehensive systems and standards for measuring IRR, valuing positions, and assessing performance, including procedures for updating IRR measurement scenarios and key underlying assumptions driving the institution's IRR analysis;**
- **Developing and implementing procedures that translate the board's goals, objectives, and risk limits into operating standards that are understood and followed by bank personnel;**
- **Providing sufficient staff to operate measurement systems, including back-up personnel who possess requisite technical expertise;**
- **Establishing adequate training and development programs;**
- **Implementing internal controls over the IRR process; and**
- **Ensuring independent reviews and validations of the IRR program are regularly completed.**

35. Determine whether the board effectively oversees planned initiatives and strategies.

36. If risk limits were breached, determine what steps management took, or plans to take, to remedy, or mitigate exposures. If management decides against corrective action, determine whether such decisions are reasonable and appropriately reported and documented.
End of Core Analysis. If needed, Continue to the Expanded and Impact Analyses.