Asset Liability Management (ALM) considerations include multiple aspects of full balance sheet management. The first and most common is interest rate risk (IRR), which is the threat that a change in market interest rates may reduce net interest income and adversely affect the economic value of variable rate assets. *Of particular concern are, non-maturity liabilities resulting in a negative impact on the value of equity and possibly impairing capital.* Capital impairment can restrict future growth, as well as draw severe regulatory treatment. Moreover, IRR can also exist in level or unchanging market rate environments. Longer term assets and liabilities may have originated prior to the most recent change in market rates, but are now reaching a maturity or a delayed re-pricing interval. Associated renewal or re-pricing to a new rate, therefore, could have a similar impact as that of market rate changes on immediately re-pricing variable rate instruments.

FIss use various modeling techniques, primarily through purchased 3rd party software operated by the financial institution (FI) or outsourced to a 3rd party vendor of ALM/IRR services. Most of these models offer varying degrees of FI input. Basic input is similar to that provided by the FI for quarterly regulatory Call Report data. *In the course of auditing the ALM/IRR function, the model should be tested.* Initial testing should include verification of data inputs (integrity of the data in the model compared to the FI’s General Ledger and other financial information). Tests will also be conducted for accuracy and/or reasonableness of the model’s calculations and results. All models include default assumptions regarding re-pricing and the interest rate impact on net interest income and economic value of equity. For those models that include FI input regarding various assumptions, these assumptions should be reviewed for reasonableness as well.

*Sources of IRR are fundamentally as follows:*

- **Re-pricing Risk** – the risk resulting when assets and liabilities have different maturities or re-pricing intervals
- **Basis Risk** – the risk from unequal movements in interest rates on an FI’s assets and liabilities with the same maturity or re-pricing date
• **Yield Curve Risk** – risk that short-term rates changing more or less than changes in long-term rates
• **Option Risk** – risk associated with FI products that allow the customer the right, but not the obligation to alter the quantity or timing of cash flows of those products

Regulatory agencies have issued several advisories (most notably FFIEC Interagency Guidance on Funding and Liquidity Management of January 19, 2010 & their Supplemental Guidance January 12, 2012) to remind institutions of supervisory expectations regarding sound practices for managing IRR. **In the current environment of historically low short-term interest rates, institutions should have robust processes for measuring and, where necessary, mitigating their exposure to potential increases in interest rates.**

Regulators recognize that some degree of IRR is inherent in the business of financial services. At the same time, however, institutions are expected to have sound risk management practices in place to measure, monitor, and control IRR exposures. Accordingly, regulatory agencies have established guidance on the topic of IRR management. Although the specific direction issued and the oversight and surveillance mechanisms used by the individual regulators may differ, supervisory expectations for sound IRR management are broadly consistent. **The regulators expect all institutions to manage their IRR exposures using processes and systems commensurate with their earnings and capital levels, complexity, business model, risk profile, and scope of operations.** Effective IRR management processes are particularly important for institutions experiencing downward pressure on earnings and capital due to lower credit quality and market illiquidity.

**Regulatory guidance also emphasizes, among other considerations, the importance of stress testing.** Such testing, as an integral component of IRR management, is expected to include both scenario and sensitivity analysis. In general, scenario analysis uses the model to predict a possible future outcomes given an event or series of events. Whereas, sensitivity analysis tests a model’s parameters without relating those changes to an underlying event or real world outcome. Stress scenarios should include but not be limited to:

• Instantaneous and significant changes in the level of interest rates (instantaneous rate shocks);
• Substantial changes in rates over time (prolonged rate shocks);
• Changes in the relationships between key market rates (i.e. basis risk); and
• Changes in the slope and the shape of the yield curve (i.e. yield curve risk).
Additionally, regulatory guidance on the risks associated with the use of IRR models requires an annual independent audit of the model. Validating IRR models is a fundamental part of any institution’s system of internal controls. An important element of model validation is independent review of the logical and conceptual soundness. The scope of the independent review should involve assessing the institution’s measurement of IRR, including the reasonableness of assumptions, the process used in determining assumptions, and the backtesting of assumptions and results. Management also should implement adequate follow-up procedures to monitor management’s corrective actions. The results of these reviews should be available for the relevant supervisory authorities.

Having appropriately assessed the IRR function, FIs should recognize the sensitive interrelationships between Credit Risk, Earnings Performance, Liquidity Risk, and IRR. While the IRR model evaluation discussed above includes specific forecasts based on current balance sheet levels and the impact of interest rates (both current level and up/down 100, 200, 300, 400 basis points), it does not necessarily reflect other critical conditions of the FI. A complete and effective audit of the ALM function should include consideration of the current Credit and Liquidity Risk profiles of the FI. The relationship begins with Credit Risk. If the FI experiences deterioration in credit quality, subsequent earnings performance will also include deterioration.

The public nature of quarterly reporting and awareness will typically lead to liquidity stress that can negatively affect forward interest rates of future accounting periods. In as much as IRR models project future earnings and economic value of equity, the effect on an FI’s interest environment is substantially related to credit quality, earnings, and attendant liquidity demands and position. Conversely, an FI with healthy credit quality, but in aggressive growth mode, may also experience heavy liquidity demands, resulting in increased pressure on interest rates for funding sources. Again, a complete ALM/IRR Audit should include these considerations, their relationship, and potential cascading effect on future earnings. Subsequently, a review of the FI’s growth history and strategic plan relative to growth must be considered.

Thus, the objectives of an effective ALM – IRR/Liquidity Risk Audit are to evaluate:

- Evidence of the appropriateness of the FI’s risk measurement system given the nature, scope, and complexity of its activities;
- Support for the accuracy and completeness of the data inputs (including assumptions for asset prepayments and non-maturity deposits) into the FI’s risk measurement system;
- Validation of the risk measurement calculations (The validity of the calculations is often tested by comparing actual versus forecasted results);
• Review of the liquidity risk measurement and monitoring systems including assessments of the current and prospective cash flows or sources and uses of funds. The Audit validates that they are commensurate with the complexity and business activities of the institution;

• Review of contingency funding that sufficiently addresses potential adverse liquidity events and emergency cash flow requirements;

• Consideration of ALM Governance including interconnectivity, growth, and strategic planning.

The real value of this process to Executive Management and the Board, however, is the holistic assessment of the ALM function and the interrelationships between Credit Risk and Earnings Performance within the context of the strategic direction of the institution. For this dedicated analysis, we recommend a qualified auditor with “real-world” ALM experience, as effectively auditing ALM is both a science and an art.

If your institution is interested in learning more about ALM (IRR/Liquidity) audit services, please contact NETBankAudit’s Kenny Smith, VP of Financial and Regulatory Services at 800-243-0416, extension 541. We would be glad to discuss the particulars and ramifications of your individual situation.

Kenneth E Smith
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As Vice President of Financial and Regulatory Services, Kenny is in charge of NETBankAudit’s C.A.M.E.L.S. and BSA/AML based auditing and consulting services. Along with capital adequacy, asset quality, Allowance for Loan and Lease Losses (ALLL), and earnings reviews, in depth coverage of Asset Liability Management (ALM) and treasury management auditing, consulting, testing, and modeling is performed. Additionally, Kenny oversees NETBankAudit’s established BSA/AML Audit and MIS Testing function from an executive and regulatory perspective. Kenny Smith brings a wealth of practical hands-on financial and regulatory experience as a former Executive, Chief Financial Officer, Chief Operational Officer, and Federal Reserve Examiner. Of note, Mr. Smith was intimately involved in the organization, start-up, profitability, and merger activities of Peninsula Trust Bank and Colonial Virginia Bank in Gloucester, Virginia. Additionally, Kenny has extensive regulatory experience as a former examiner in which he most recently served as Special Operations Coordinator, Staff Development & Quality Control Officer at the Federal Reserve Bank of Richmond – Banking Supervision and Regulation Department. Mr. Smith also has internal audit experience and was a frequent speaker/teacher at the Virginia and North Carolina Directors Colleges. He is a member and key contributor on numerous local and regional bankers associations as well as bank operations organizations and user groups. Mr. Smith is a graduate of the University of Richmond (B.A. in Economics), the School of Bank Administration at the University of Wisconsin, and RMA Commercial Lending School at East Carolina University.