FMS Financial Managers Society
Perspectives
A publication of the Financial Managers Society

Building an Effective Modeling Process

By Mark Haberland, Managing Director, Darling Consulting Group

There's nothing new about institutions' use of asset-liability management models to manage risk. But after six years mired in the worst economic crisis of our generation, examiners have renewed their focus on how institutions measure and manage interest rate risk and how they support the assumptions that drive the results.

How strong is your institution's approach? The ultimate utility of the ALM model is primarily dependent upon two factors:

- *Assumptions:* How reasonable are the assumptions behind your models?
- *Decision making:* How are the results utilized to drive the direction that ALCO takes?

Institutions must be careful how they let ALM tests and simulations influence their decisions. Some efforts, driven by regulatory requests, may skew results unnecessarily.

Washington steps up ALM emphasis

At the end of 2013, the regulators made it clear that their exams would be focusing on institutions' processes for identifying and managing risk, especially in anticipation of the eventual rise in interest rates, and the regulators' preference for "institution-specific" model assumptions.

Thus, it is critical for banks and credit unions to continually review and challenge these assumptions to ensure they represent each institution's current operating environment.

For the majority of financial institutions, the assumptions that apply to the deposit base (sensitivity betas and average lives) have the most profound influence on the risk profile—both earnings and value at risk.

The methods institutions use to develop these assumptions have been in the regulatory cross-hairs in recent exams. The comment has changed from, "Are these assumptions supported?" to "*Show us* how you support these assumptions."

If you haven't been asked to prepare a deposit analysis, odds are very high that regulators will do so during your next exam. The most effective way to provide the support for these most critical assumptions is to have a historical deposit study prepared. But a deposit study taken at face value is worth little. What is most often missing is the logical—yet often overlooked—next step of applying qualitative analyses to these results.

Numbers *can* lie

It is critical to look at the results and ask: "Do these numbers make sense? Knowing what we know, is this how we will manage our deposit base in the years to come?"

Then the institution must determine whether the study or model assumptions (or some combination thereof) are truly most reflective of their business plan.

And it is critical that management and ALCO understand how those ultimate results were derived, as they will need to explain them to the examiners and provide documentation regarding how they were developed.

Deposit studies are not an exercise in futility—nor something to be done simply to appease the examiners. We have generally found that absent a study (or other documented support), institutions tend to apply more conservative assumptions which, by definition, show an increased exposure to rising rates.

As we continue to wallow in this low-rate environment, and margins come under pressure, institutions are looking for ways to survive. They want the ability to put on longer-term assets to get some spread, yet a liability-sensitive profile makes that a difficult argument to win with the examiners.

A study that supports lower betas and longer average lives allows for the ability to extend assets and get more yield. Should the study support the conservative assumptions, then at least you are confident in the assumptions and can look elsewhere for income opportunities.

The importance of accurate and supportable assumptions cannot be overstated when developing an ALM model. However, assumptions are just that—something estimated, and not definite.

Once you have the support you need for your deposit assumptions, you will have more confidence in your model results and, therefore, the decisions you make at ALCO. But these assumptions impact more than just the net interest income (NII) and economic value of equity (EVE/NEV) models: *Don't get interest rate risk management confused with balance sheet management.*

Introduce scenario/stress testing to your ALM process. Taking your key assumptions and running alternative simulations that show the impact of different or stressful factors will provide the institution with useful information regarding potential exposure to the balance sheet and what levels of stress have the most impact on results.

Stress testing provides confidence

The assumptions that drive NII and EVE/NEV model results also impact your liquidity management and contingency planning processes. Stress testing provides guidelines for potential exposure levels and back-testing the model provides additional confidence in the assumptions and model results.

Institutions could examine the impact of a 15%-20% runoff of non-maturity deposits as rates rise, with those deposits either migrating into higher-cost accounts or leaving the institution altogether. This could have a profound impact on NII sensitivity as well as raise potential liquidity concerns—the importance of a strong ALCO process that examines all balance sheet risks is vital to the development and implementation of key strategies.

NII simulation

NII simulation should be the primary tool for measuring and managing interest rate risk. By examining a set of core scenarios (rate ramps) and alternative simulation runs (twists, etc.), bankers can obtain the most accurate interpretation of earnings at risk under reasonable rate scenarios.

By focusing too much attention on instantaneous and permanent rate shocks or Economic Value of Equity (EVE/NEV) results, ALCOs can inadvertently manage to overstated or, worse yet, non-existent exposure. Shocks and EVE/NEV introduce unrealistic aspects into the modeling process that can result in poor decision making.

For example, rates do not "shock" up or down 300 or 400 basis points and remain at those levels in perpetuity. That remains true even going back to the most volatile period, when Fed Chairman Paul Volcker was running the central bank.

And the presumption that EVE/NEV is a "liquidation" of the institution is contrary to the belief that it will continue operating and cash flow will be replaced at current market rates.

And while we are on the subject of the EVE/NEV analysis, this is the tool where inaccurate model assumptions can cause serious unintended consequences. And unfortunately, EVE is the primary risk management tool reviewed by field examiners today, and its results are dramatically impacted by the assumptions on non-maturity deposits.

However, an EVE/NEV built on erroneous or unsupportable assumptions runs the risk of providing an inaccurate representation of rising rate exposures. This can limit the institution's ability to most effectively manage ongoing margin/earnings compression in the current rate environment through extending assets, shortening liabilities or using derivatives—especially if the EVE/NEV suggests an overly conservative exposure to rising rates.

Bringing clarity to the decision-making process

As institutions struggle to maintain earnings and margins in today's environment, the role of ALCO has never been more important. The significance of an accurate model and assumptions is at the forefront of regulatory exams and bankers' minds.

Now is the time to ensure your process will provide you with the information you need to effectively manage risk and make the right decisions at ALCO at the right time. Do not underestimate the importance that the assumptions have on results.

Disclaimer: The views and opinions expressed in this article are those of the author(s) and do not necessarily reflect the official policy or position of the FMS.

About the Author

Mark Haberland is Managing Director at Darling Consulting Group. He works directly with financial institutions to help provide solutions for their asset liability management process.

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312-578-1300
toml@fmsinc.org
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