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Risk Management Insights

Portfolio Stress Testing: What are the Keys to Being Successful?

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When the CRE Guidance was released in December of 2006, the key components of effective CRE risk management practices were clearly listed. While none of these components were wholly new concepts in credit portfolio management, the one area that was the least distinctly defined was “portfolio stress testing and sensitivity analysis.” While stress testing of individual borrower financials has long been part of many institutions underwriting process, stress testing the entire portfolio or portfolio concentration segments is a relatively new process except in the largest of banking institutions. The CRE Guidance’s emphasis on portfolio stress testing and sensitivity analysis as a key best practice has created concern for credit managers at institutions of all sizes.

The regulators provided an overview of CRE loan portfolio stress testing in the Guidance:

“The sophistication of stress testing practices and sensitivity analysis should be consistent with the size, complexity, and risk characteristics of its CRE loan portfolio...Portfolio stress testing and sensitivity analysis may not necessarily require the use of a sophisticated portfolio model.”

The only specific direction in the Guidance of how this portfolio stress testing should be conducted is as follows:

“Stress testing may be as simple as analyzing the potential effect of stressed loss rates on the CRE portfolio, capital, and earnings. The analysis should focus on the more vulnerable segments of an institution’s CRE portfolio, taking into consideration the prevailing market environment and the institution’s business strategy.”

These loose guidelines and definitions have caused many bank credit managers to search for more detail on techniques and best practices around how to actually implement “portfolio stress testing.” In the July 2008 issue of the American Bankers Association’s *Commercial Insights* e-newsletter, responding to a request for a more specific definition, the Federal Reserve Board Staff offered the following thoughts on portfolio stress testing:

“A simple but useful analysis could evaluate several hypothetical changes over an entire real estate cycle for loss rates on the CRE portfolio as a whole, or certain loan segments, to estimate the potential effect on the institution’s income, capital, and asset quality metrics. A more advanced analysis would show how simultaneous changes in several variables, such as vacancy rates, cap rates, and absorption rates, would affect the portfolio’s average debt service coverage ratios, average loan-to-value ratios, and repayments and level of delinquencies.”

Based on this and other commentary and information Ardmore Banking Advisors has gathered from regulators and our banking clients, we offer the following understanding of the **four key components** of a successful CRE Portfolio Stress Test:

1. ***Reasonable scenarios:*** The actual stress function should reflect the results of reasonable scenarios that can impact your CRE borrowers.

The regulators are not as concerned about your institution’s ability to understand the impact of a massive disaster that wipes out 50% of your borrower’s income. They are more concerned about the impact of a reasonable market shift. Such a shift may be subtle enough to create significant new exposure without actually being a dramatically visible event to the credit manager.

More likely, market events that would create sensitivity in the portfolio would be small but significant drops in a borrower's ability to repay (dropping cash flow, increasing debt service) or dropping market values for existing income producing properties (Cap Rates, NOI). These type of events should be tested in "reasonable gradations" say 10 to 20% shifts, which would reflect real life type market changes such as interest rate changes or a major employer going out of business in a particular area.

2. **Testing the CRE loan portfolio: The stress test should be applied to the CRE loan portfolio in aggregate, as well as to specific concentration segments and individual borrowers that are relevant to the complexity of your portfolio mix.**

Looking at both the forest and the trees is a good practice if you want to have true control over your bank's exposure. Looking at the entire portfolio at once can reveal unexpected patterns of exposure not readily apparent when looking at borrower financials individually. Just as important is the ability to aggregate the stress test results by relevant concentration segments.

The Guidance is very specific about what the regulators consider important concentration segments to monitor: Property Types, Project Locations, Loan Types, Collateral Types, etc. By stressing these individual segments in aggregate, you are able to gather intelligence about potential impacts to your portfolio due to weakening or sensitivity to particular property types (Office Buildings, Hotels) as well as areas in your footprint (zip codes, counties). This knowledge is crucial as the regulators expect you to be ready to take effective action when a market shift occurs – and without this specific data you will not be able to adjust policies and target specific borrowers effectively to mitigate risk. The first critical thing regulators look for in credit risk management is timely and thoughtful identification of risk. Then, it is necessary to quantify the risk and effectively control it. Finally, it is essential to monitor the risk.

3. **Loan to Value (LTV) and Debt Service Coverage (DSC): A key indicator of stress on the portfolio, capital and earnings is an understanding of the potential changes in the financial ratios of Loan to Value (LTV) and Debt Service Coverage (DSC).**

The regulators have been clear about the importance of LTV and DSC monitoring from a portfolio management perspective. These are considered key leading indicators for changes in exposure and possible future delinquencies and/or non-accruals and charge off. They should be specifically addressed in loan policies. The impact of a market shift on the CRE portfolio should be easily visible in changes in individual and aggregate LTV and DSC ratios.

Using internal thresholds for acceptable LTV and DSC limits, credit managers can then compare the post stressed adjusted LTV and DSC ratios vs. these limits, and easily determine if target areas of exposure are at risk. This is particularly valuable when aggregating loans into concentration categories. Should a significant number of loans exceed the established thresholds in a particular concentration category (location or property type, for example), the institution would be encouraged to be prepared to take action within this segment of the portfolio anticipating such a market shift.

4. **80% of portfolio: You need to be able to collect and store enough data to effectively stress at least 80% of your institution's exposure to be an effective indicator of portfolio risk.**

In order to effectively stress test your portfolio, you will need to collect and store a number of different types of financial information for each loan in the CRE portfolio. In some cases this can include appraisal value; annual cash flow; annual debt service, along with outstanding loan balance; LTV and DSC for each loan. For many institutions, collecting and maintaining this level of current information for each loan in the CRE portfolio is an arduous and lengthy process.

While collecting and maintaining this information for all loans in the CRE portfolio is a best practice and will yield the most complete results, there is an understanding that banks shouldn't wait until all of this information is collected to start their portfolio stress testing exercise. Regulators have suggested to us that they would see value in the results of stress testing in which the loans with largest percentage of the bank's exposure are reflected. Using the old 80/20 rule, it is possible that a bank can collect information on only some of their loans, but still reflect 80% of portfolio exposure by coding all of the largest loans first. 75 to 80% of total CRE exposure would appear to be significant enough to effectively stress.

These keys to successful CRE portfolio stress testing would apply to virtually all sized institutions regardless of low levels of portfolio complexity. As stated repeatedly by the regulators, additional complexity of the CRE portfolio will require more complex stress testing scenarios, factors and tests. For example, for institutions with very high concentrations of acquisition, development and construction loans, being able to stress absorption rates and interest reserves is important as well.

Many institutions will use spreadsheets, but now most are finding that some newly available stress testing tools save time and add a desired level of data integrity to the process. Whichever tools your institution chooses, CRE portfolio stress testing is clearly becoming a requirement for every institution, and understanding how to do it effectively is important.

- Once again, it is essential to remember the essentials of credit risk management that are enhanced by stress testing an entire CRE portfolio and individual transactions: The first critical thing regulators look for is timely and thoughtful identification of risk.
- Then, it is necessary to quantify the risk and effectively control it.
- Finally, it is essential to monitor the risk.