

Stress Testing Best Practices

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Best Practices for Associations

The Best Practices discussed here relate to associations' comprehensive stress testing activities, which are usually related to the annual business planning process or analyses performed during periods of unusually elevated risk. There are a host of specific stress testing activities that institutions should undertake based on their individual circumstances, risk profile, and management priorities. They should be done in a manner that best suits the information needs of the institution's management and board.

These Best Practices reflect those already utilized by many Farm Credit System institutions, as well as added practices that FCA also considers Best Practices. Stress testing Best Practices for associations include:

Formal policies and procedures – Formal stress testing policies and procedures ensure that stress testing is conducted in a manner that meets the information needs of senior management and the board. The policies and procedures address the frequency of stress testing, its role in the business planning process, how it is integrated in the institution's risk management process, and documentation and reporting expectations. Effective policies and procedures indicate a clear and central role for the board and senior management.

Well-developed stress scenarios – The development of a stress scenario begins with a well-thought out description of the environment that is assumed to lead to the stressed situation. This should include a description of the underlying economic and financial environment, such as those factors influencing the demand for farm products, commodity prices, input costs, farm income, yields, off-farm income, collateral values, interest rates, etc. Key interrelationships within the portfolio are taken into consideration. Input into the development of this scenario includes senior management, the board, business line managers, and industry specialists at the institution. Outside experts may also be consulted. This scenario development process will make the stress testing process more meaningful to the board and others.

Describing the underlying economic and financial environment of each scenario enables management and the board to better assess the likelihood of its occurrence. This approach is more meaningful than simply assuming portfolio probability of default (PDs) and loss given default (LGDs) migrate a specified number of ratings without any linkage to the cause of such migrations. Nevertheless, PD and LGD migration and sensitivity analyses can play an effective role in the overall risk management program of the institution. Having well-described, concrete economic, government policy or lending conditions as the drivers of the stress scenarios also facilitates the development of contingency plans for implementation should the scenario actually materialize. For example, a stress scenario driven by adverse developments in one or two large portfolio concentrations, such as swine and dairy, might warrant different contingency plans than those of a sharply higher interest rate environment.

Scenarios are internally consistent. They take into account both on-balance sheet and off-balance sheet risks, including unused lines of credit, counterparties, and investment portfolios.

One of the stress scenarios considered poses a severe stress on the institution. This severe stress is unexpected, yet plausible.

The stress scenarios are developed with a certain degree of creativity, particularly when considering severe stress scenarios. The development of stress scenarios are not overly influenced by historical experience.

Stress testing methodology – The stress test starts with a baseline scenario that reflects the current financial condition of the institution's borrowers. The analysis may rely on actual borrower data, proxy data, or simulated borrower financial data based on the best information available. The borrowers' financial condition is subjected to an assumed stress environment over at least a three-year period. Stress scenarios are internally consistent and take into account correlations between industries and other operating units of the institution.

Management interprets the stress testing results critically, recognizing that the stress testing model is merely a tool that is as good as the data inputs and the assumptions. The methodology is validated frequently and adjusted as appropriate.

Stress testing results – Comprehensive stress testing results encompass the performance of the entire institution over at least a three year period. The results show the impact of the stress scenarios on the institution's balance sheet, income statement and key financial performance ratios. These results are compared to a baseline scenario.

Adjustment to operations and contingency plans – Stress testing documentation includes a discussion of whether management believes an adjustment to current lending practices and/or financial management practices should be considered due to the stress testing results. Potential contingency plans for mitigating risk in the event the stress scenarios ultimately occur is also discussed. Adjustments to operations and contingency plans may include such responses as adjusting underwriting practices and hold limits, loan pricing, patronage distributions, and asset growth. It may involve establishing lines of credit or plans for raising outside capital.

Best Practices for Banks

The associations' best practices related to formal policies and procedures, well-developed stress scenarios, stress testing methodology (except that banks would not directly stress associations' borrowers in order to stress their direct loans), stress testing results, and adjustments to operations and contingency plans also apply to banks.

Stress testing at banks is far more complicated than at associations due to their more complex balance sheets and the challenge of being able to effectively mine an association's database. Banks carry out ongoing stress testing of the various components of their balance sheets.

Retail loans (including participations and capital market loans) – Loans in this category are stress tested in a manner similar to how associations stress test their loan portfolios. This category is segmented into logical groups of commodities or other groups possessing common underwriting/risk characteristics. Stress testing is based on borrower level information or proxy data and/or simulations reflecting management's most up-to-date knowledge of its borrowers' financial condition.

Association Direct Loans – Direct loan stress testing should be rooted in the risk embedded in each association's direct loan. Consequently, the direct loans' performance under alternative stress scenarios ought to be reflective of each district association's risk profile. Banks should utilize stress testing methodologies that reflect how each direct loan would likely perform under well-defined stress scenarios. Assessing the risk embodied in each direct loan may be aided by evaluating the

stress testing completed by the district associations if viewed to be adequate, sound and comprehensive enough to judge the impact of potential risk to the portfolio. If an association's stress testing practices are not sufficient to support a valid conclusion, then the bank should conduct stress analyses of that association's direct loan based on other information available to the bank.

Investment Portfolio – Banks conduct regular stress testing of their investment portfolios. Stress tests consider alternative interest rate and credit-related scenarios. Some banks rely on external parties and tools for stress testing this portion of their balance sheet.

Interest Rate Risk – Bank staff analyze the potential impact of alternative interest shocks and other interest rate scenarios on their market value of equity and net interest income. Their analyses enable them to fulfill reporting requirements to their board, asset-liability management committee, and to FCA.

Other Exposures – Other exposures, such as counterparties, are stressed regularly and reflect potential events ranging from high probability-low impact to low probability-high impact scenarios.

Comprehensive Stress Testing – Comprehensive stress testing associated with the annual business planning process and/or an unusual or elevated risk environment integrates the results from stressing each component of the bank's balance sheet. Banks develop well-defined stress scenarios, describing the underlying economic environment for each scenario. At least one scenario constitutes a severe stress, one that is unexpected, yet plausible. The entire balance sheet is subjected to these stress scenarios in a consistent manner. The impact of the scenarios on the performance and condition of the bank should be projected over at least a 3 year time horizon.