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Why Stress Testing?

Its Rationale & Objectives in the Financial Services Sector

STRESS TESTING: A risk management technique used to evaluate the potential effects of an event or scenario on an institution's financial condition. This would include changes in real and financial variables, on a financial institution (such as a bank or credit union) or financial system. Understanding Stress Testing is paramount as it measures the vulnerability of a portfolio, institution or the entire financial system under different hypothetical events or scenarios. The most recent wave of the COVID-19 Pandemic and its global impact further underscores the importance and need for the Stress Testing mechanism to examine and analyze various scenarios which can take place as a result.

Purposes of Stress Testing

Stress testing should be embedded in an entity's enterprise wide risk management and, as a whole, should be actionable. This means it plays an important role in facilitating the development of risk mitigation or contingency plans across a range of stress conditions. It should feed into the institution's decision making process including setting the institution's risk appetite, setting exposure limits and evaluating strategic choices in long-term business planning.

An institution's stress testing program should serve the following purposes:

1. **Risk identification and control** - Stress Testing should be included in an institution's risk management activities at various levels. For example, ranging from risk mitigation policies at a detailed or portfolio level to adjusting the institution's business strategy.

2. **Providing a complementary risk perspective to other risk management tools** - Stress tests should complement risk quantification methodologies that are based on complex, quantitative models using conservative data and estimated statistical relationships. Stress testing not only allows for the simulation of shocks which have not previously occurred but is also used to assess the robustness of models to possible changes in the economic and financial environment. Stress tests should help to detect vulnerabilities such as unidentified risk concentration as well as potential interactions between types of risk that could threaten the viability of an institution , but may be concealed when relying purely on statistical risk management tools based on historical data.

3. **Supporting Capital Management** - Stress testing should form an integral part of the institution's internal capital management where rigorous, forward-looking stress testing can identify severe events that could adversely impact the institution.

4. **Improving Liquidity Management** - Stress Testing should be a central tool in identifying, measuring and controlling liquidity risks, in particular for assessing the institution's liquidity profile and the adequacy of liquidity buffers in the case of both institution-specific and market-wide stress events.

Benefits of Stress Testing

* Helps Financial Institutions to identify the concentration of exposure which could lead to substantial losses in the event of an economic downturn e.g. (2008 Financial crisis and the current global COVI-19 pandemic)

* Helps to determine whether Financial Institutions (Banks/Credit Unions/ Insurance Companies) have appropriate/ sufficient capital levels to cover losses.

* Helps to develop built-in reporting capabilities for Financial Institutions given the demand for intensive data collection during stress testing.

* Helps to strengthen risk management practices and to limit complacency in the governance within the Financial Services Sector .

* Helps Financial Institutions better appreciate how financial and macroeconomic development affect their sector and the entire financial system.

* Enable the strengthening of dialogue and collaboration between Regulators and Financial Institutions.

Methodology and Scenario Selection

Key Risks Identification in Stress Testing

Stress tests should cover a range of risk and business areas, to adequately analyze all components of the institution's operations. An institution should be also able to integrate effectively, the range of its stress testing activities to deliver a complete picture of its institution-wide risk.

An institution should consider its most material and significant risks. These may include:

⇒ **Credit Risk** - risk of loss associated with the default of a debtor ;

⇒ **Market Risk** - Interest Rate Risk, Exchange Rate Risk, Equity Risk, Commodity Price Risk;

⇒ **Liquidity Risk** - Contagion Risk , Operational Risk;

⇒ **Other Risks (Strategic, Reputational/Legal) .**

Vulnerabilities

Stress testing programs should apply across business and product lines and cover a range of scenarios. Additionally, the programs should be conducted with flexibility and innovation in order to improve the likelihood of identifying hidden vulnerabilities.

The identification of the score, coverage and data are all key objectives of the Stress Testing process. The process would also include the identification of the institution's vulnerabilities to determine the resilience of the entire system or its most significant components (Macro-Stress Testing) or the resilience of a product or service (Micro-Stress Testing).

Determining Scope /Coverage/Data when Stress Testing

Selection of an event or scenario for stress testing is determined by the following :

~ ***Size*** **:**

Scale of financial activities undertaken by the institution;

~ Interconnectedness*:*

Direct and indirect linkages with other products and/or services of the institution.

~ ***Substitutability*****:**

Extent to which other components of the institution's internal system provide the same service in the event of a failure/crisis;

~ ***Complexity:***

Intricacies of business and operational products and/or services provided by the institution especially if it is involved in the provision of multiple financial services ;

~ ***Cross Border Activities*** *:*

The territorial reach of the institution, that is the share of cross border assets and liabilities and linkage with other components of the institution's financial system.

REFERENCES

Basel Committee on Banking Supervision (September 2008)

Liliana Schumacher , Senior Economist at IMF Marketing & Capital Market Department (September 2019)

CARTAC Technical Assistance Mission May 14– 18 2018 Paper

Determining Data Needs

It is important to check early on the *availability and quality of the data* to conduct the stress testing.

Data/information requirements for stress testing may vary depending on the approach and method used. The type of data may include:

- Macroeconomic Data;
- Supervisory Data;
- Accounting Data; and
- Market Data.

The Top-Down Approach is recommended when stress testing to determine the overall sensitivity of the institution's system to broad macroeconomic developments.

How to Calibrate Shocks and Scenarios?

Core Steps:

1. Determine the type of shock that can trigger the risk;
2. Determine the level at which the magnitude of the shock would cause the risk to materialize (historical information can help);
3. Determine the risk horizon at which to analyze the shock;
   (Medium-term scenarios = 1 yr—3 yrs, (1 yr—5 yrs)
   (Sensitivity Analysis (Instantaneous)
4. Map shocks and scenarios to risk factors and relevant variables (including balance sheet information).

In conclusion, Stress Tests are not stand-alone tools and therefore a full-fledged risk analysis should combine stress tests with other quantitative and qualitative tools.

REMEMBER No Single Stress Testing Methodology is perfectly suited for ALL Financial Institutions .

Recommended Stress Testing Tips:

- ***Check the health of your financial institution at least annually.***
- ***Select the right methodology that is suitable and adequately captures the key drivers amid the complexities, uniqueness and peculiarities of your Financial institution.***
- ***Stress Testing must employ reliable, timely and detailed data.***
- ***Historical data must cover turbulent episodes as well as periods of calm.***

Stress Testing is a comprehensive, in-depth assessment that has proven to be quite POWERFUL.

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