



REVISED STRESS TESTING GUIDELINES

PRESENTATION FOR BANKS AND DFIS

21 SEPTEMBER 2020

Stress Testing - An Overview

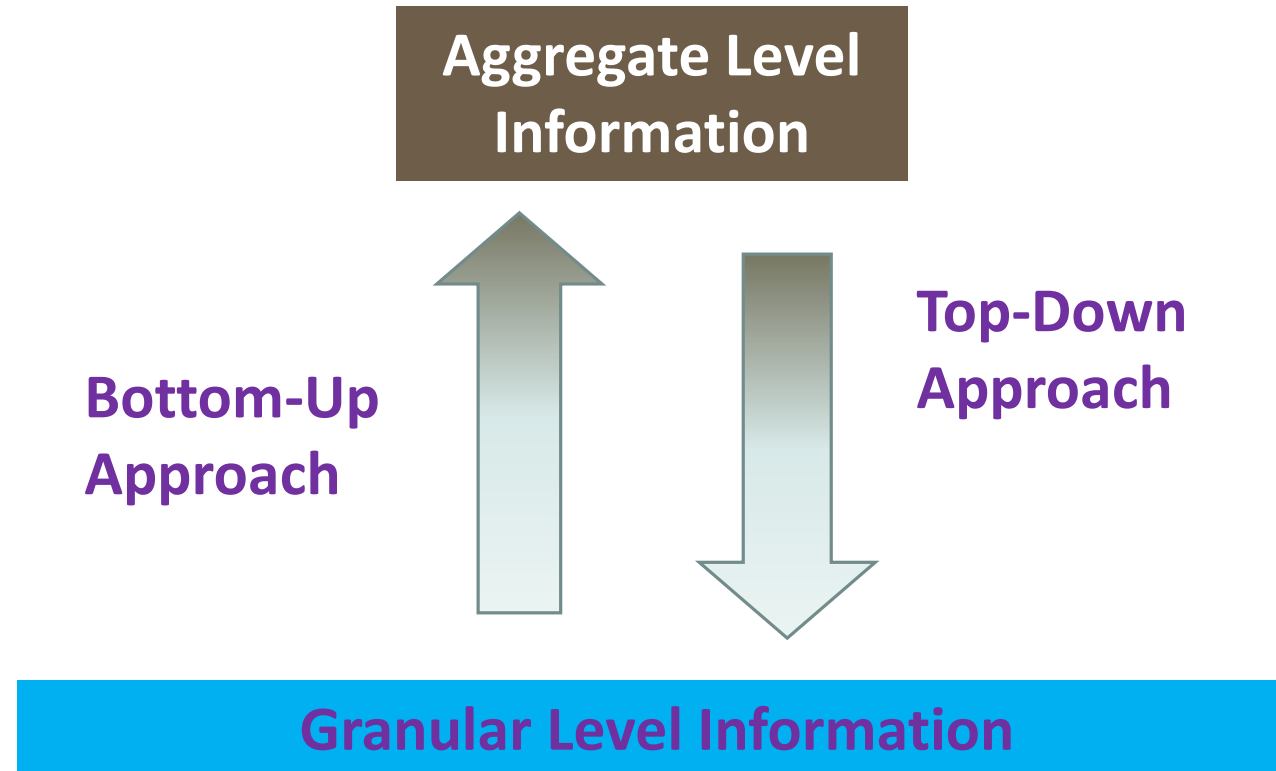
- ❖ Stress Test examine potential impact of **adverse/exceptional but plausible** events on the health of banking system or individual institution
- ❖ Exceptional refers to events of high severity
- ❖ Plausible excludes improbable scenarios.

Stress Testing- An Overview

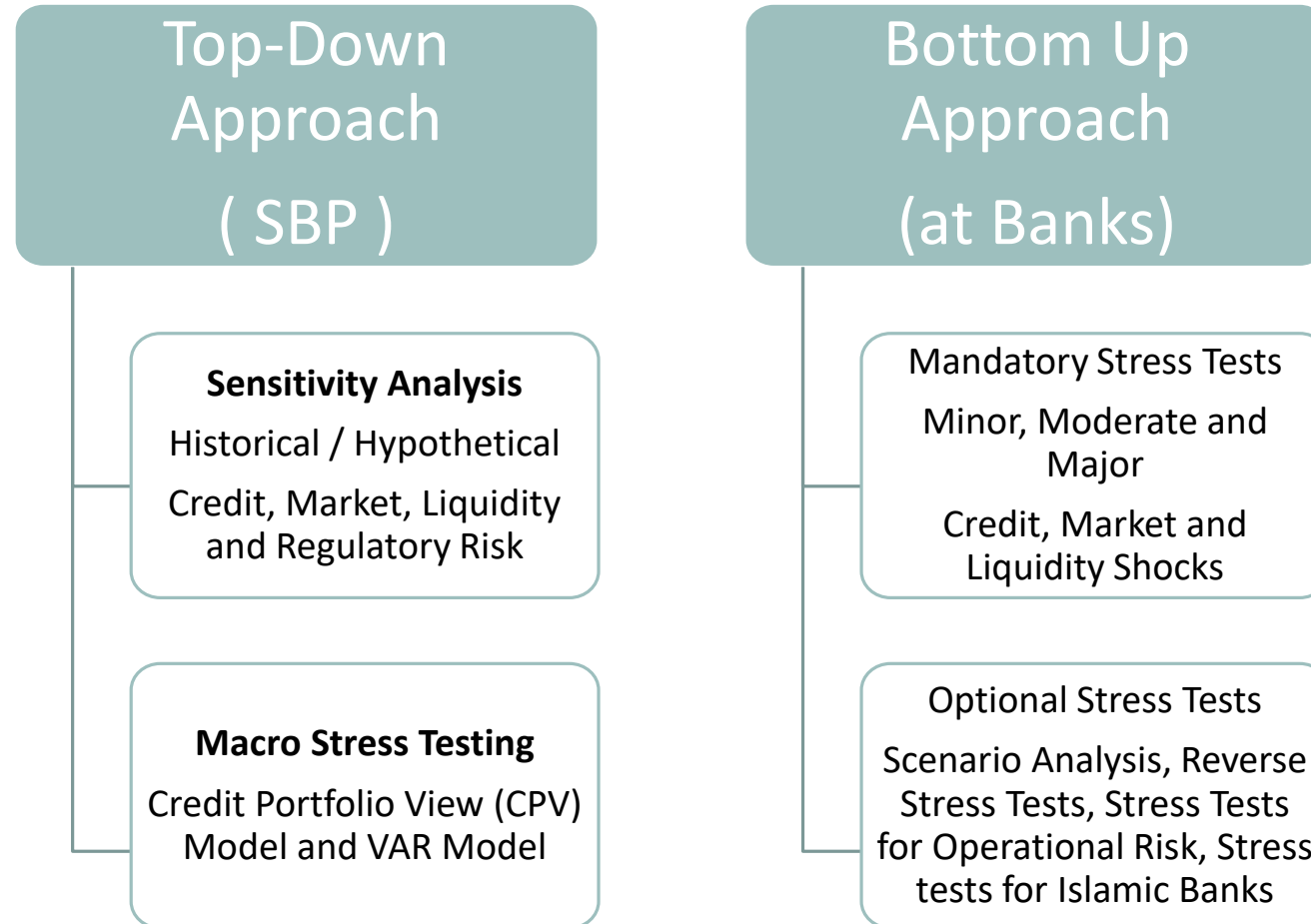
- ❖ Assist in identifying vulnerabilities and in developing an institution's risk profile
- ❖ Classification of objectives:
 - Macro-prudential Tool- Systemic risk
 - Micro-prudential Tool- Idiosyncratic risk
- ❖ Used by Central Banks, multilateral Institutions, Individual financial Institutions

Stress Testing Framework

❖ Two approaches



Stress Testing framework at SBP



Stress Testing Framework at SBP

❖ Background



Why Revise?

❖ Revision needed as:

- Financial supervisory and regulatory environment continues to evolve
- Bank for International Settlements (BIS) revised Stress Testing principles in 2018
- Framework for Domestic Systemically Important Banks (D-SIBs) was issued in April, 2018

Why Revise?

Contd.

❖ Revision needed as:

- Islamic banking has grown in size and complexity
- Micro-Finance Banks segment also on the rise and focus from financial inclusion perspective
- Planned switch to Risk Based Supervision (RBS) framework requires a forward-looking approach towards identification of relevant financial risks.

Changes to the Current Guidelines

Mandatory
Scenario
Analysis aka
**Macro Stress
Testing (MST)**
for Sample of
D-SIBs

**Enhanced
Scope**
Of Sensitivity
Analysis

**Increased
Coverage of
Sensitivity
Shocks –**
Operational,
AML/CFT,
Misconduct,
**Reverse Stress
Testing**

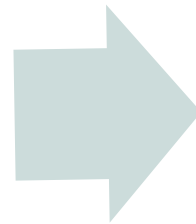
**Adjustments
in Reporting
Requirements**

**Addition of
Controls**

Mandatory Scenario Analysis for Sample of D-SIBs

Current

Banks with a share of more than **4 percent in industry assets** are **encouraged** to conduct scenario analysis (MST)



Revised

MST **Mandatory** for Sample of D-SIBs* [using econometric modelling techniques] with **annual** submission of results

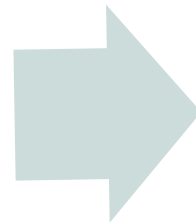
* See BPRD Circular No. 04 dated April 13, 2018 for details on criteria for classification as “sample of D-SIBs”

Sensitivity Shocks applicable to IBs/IBBs and MFBs

Current

Sensitivity analysis applicable to Banks/**IBs**/DFIs.

IBBs and **MFBs** are not required to conduct stress testing.



Revised

Tailored set of shocks designed for **IBs/IBBs** and **MFBs**, in addition to Banks/DFIs.

Increased Coverage of Sensitivity Shocks

Current

Shocks cover credit,
market and liquidity
risks.



Revised

Addition of **operational shocks** (AML/CFT violations, Cybersecurity breaches)

Changes in the **calculation methodology of interest rate and exchange rate shocks**

Inclusion of **NSFR** as a metric to measure liquidity risk

Addition of a shock in the spirit of **reverse stress testing** and a shock to the value of collateral

Sensitivity Analysis – Number of Shocks

	Credit	Operational	Market	Liquidity
Banks (excluding Islamic Banks)	8 [6]	3	5 [6]	5 [4]
DFIs	6 [4]	3	5 [6]	1 [1]
IBs/IBBs	6	4	5*	3
MFBs	4	3	3	4

* Including two integrated scenarios i.e. scenario accounts for both credit and market risks.

Adjustments in Reporting Requirements

Current

Banks/DFIs submit **quarterly** stress testing **data** and **results** to SBP via DAP.



Revised

Banks/DFIs/**IBs/IBBs** will submit only **required data** to SBP via DAP.

No quarterly submission of Sensitivity Analysis results for Banks and DFIs. **IBs/IBBs** and **MFBs** are **required** to submit SA results for four quarters, starting Q4-CY20

Scenario Analysis (**MST**) results to be submitted to SBP **annually** as a part of the **ICAAP**

Addition of Controls

Current

Stress testing results submitted to SBP



Revised

Own **in-house** stress testing based on revised shocks

On-site: Review by inspection teams

Off-site: Engagement by OSED

Periodic checks of randomly selected banks to ensure consistency of results

Elements of Stress Testing Framework

Elements of Stress Testing Framework

❖ Objectives

➤ Risk Management Tool

- The ST exercise should be forward looking and used for informed-decision making

➤ Supervisory/Institutional Considerations

❖ Governance Structure

- BoD is responsible for establishment and oversight of ST framework, while RMC is responsible for its design and implementation

❖ Resource Adequacy

❖ Data and IT Infrastructure

Guidance on Scenario Analysis

Guidance on Scenario Analysis

❖ Objectives

- Aligned with the institution's overall risk management framework
- Approved by BoD and formally documented in coherent manner
- Should cover institution-wide analysis to portfolio/sector level assessments

❖ Risk Coverage Scenario

- Should identify all material and relevant risks through a comprehensive risk identification exercise – credit, market, liquidity and operational risks
- Should focus financial implications of macroeconomic adversities on balance sheet
- Should take care of underestimation of risks on aggregate level

Guidance on Scenario Analysis

❖ Models and Methodologies

- Level of sophistication should commensurate with the objectives
- Maintain inventory of models and adequately account for feedback effects, model risks and target risks
- Base on quarterly data and cover projection horizon of eight quarters
- Document and present selected models, assumptions, judgments and performance before RMC of the BoD along with results

Guidance on Scenario Analysis

❖ Construction of Scenarios

- Cover at least three scenarios, besides Reverse Stress Testing (RST)
 1. Baseline scenario
 2. Historical Adverse scenario
 3. Hypothetical Stressed scenario
- Develop consistent and plausible narrative for all scenarios differing in terms of severity – moderate, adverse and severely adverse
- Document scenarios and assumptions involved

Guidance on Scenario Analysis

❖ Review and Challenge

- The MST framework should be critically reviewed and challenged by RMC at least once in every three years
- Review process should ensure incorporation of MST results in decision-making process
- Should account for the outcomes of the review and update the processes accordingly

Guidance on Scenario Analysis

❖ Results Communication and Feedback

- The detailed results with methodologies should be presented annually before BoD, in addition to RMC
- Submission to SBP under ICAAP document on annual basis
 - A. Objectives, scope and governance structure*
 - B. Narratives and calibrations for all scenarios
 - C. Methodologies including assumptions, data, models, statistical software and working files.
 - D. Results including, pre- and post-shock levels of risk indicators
 - E. Minutes of RMC and BoD meetings held for the presentation of MST results including all comments, views, suggestions and plans for remedial actions.

* Requires one-time submission. Resubmission would be required in case of significant changes.

Sensitivity Analysis for Banks, DFIs

Sensitivity Analysis of Banks and DFIs

Credit Shocks

- **Eight** Shocks (C1-C8)
- Types:
 - Downgrade of the overall advances portfolio
 - Reduction in the value of collateral
 - Sector specific shocks to the loan portfolio
 - Critical levels of infection ratio

Operational Shocks

- **Three** Shocks (O1-O3)
- Types:
 - AML/CFT violations
 - Cybersecurity breaches
 - Other general operational losses such as fraud, litigation losses or a natural disaster

Market Shocks

- **Five** Shocks (M1-M5)
- Types:
 - Adverse movements in the interest rates
 - Variations in the exchange rate
 - Variations in the stock (equity) market

Liquidity Shocks

- **Five** Shocks (L1-L5)
- Types:
 - Withdrawals of deposits and/or unsecured borrowings
 - Shock to Liquidity Coverage Ratio
 - Shock to Net Stable Funding Ratio



Reporting Requirements and Controls

❖ Results Submission

➤ Sample of D-SIBs

- Results of MST and RST as of December 31 as a part of ICAAP document
- Submission on annual basis by May 31 of the following year

➤ Banks and DFIs

- Continue to conduct SA analysis for internal consumption
- No submission of results required

➤ IBs/IBBs and MFBs

- Submit results of SA analysis for four quarter with first submission based on end Q4CY20 statistics.
- Submission on prescribed templates within 15 working days after quarter end

Reporting Requirements and Controls

❖ Data Submission

➤ Banks, DFIs, IBS/IBBs are required to submit quarterly data as per revised template within 15 working days after quarter end

❖ All results and data shall be submitted on SBP's Data Acquisition Portal (DAP)

Reporting Requirements and Controls

❖ Controls

- All institutions are required to:
 - Present results of ST exercises before RMC
 - Utilize these for preparing contingency plans, if necessary
 - Brought to the notice of BoD, if material vulnerabilities exists
- SBP inspection teams may;
 - Review the implementation of ST processes
 - Random checks of results
 - Minutes of RMC and/or BoD meetings
 - Steps taken to address identified vulnerabilities
- SBP will conduct in-house ST exercises and may engage with vulnerable institutions for mitigation plans, if required.

Engagements

- ❖ SBP will conduct workshops with the institutions for clear understanding of the Guidelines on Stress Testing 2020.
- ❖ SBP may also provide assistance to strengthen and enhance the ST framework at bank-level.

THANKS!

ANNEXURE

FSR 2019 - Results

Financial Stability Review 2019

Horizon: Five Year: Q1CY20 to Q4CY24

Two Scenarios:

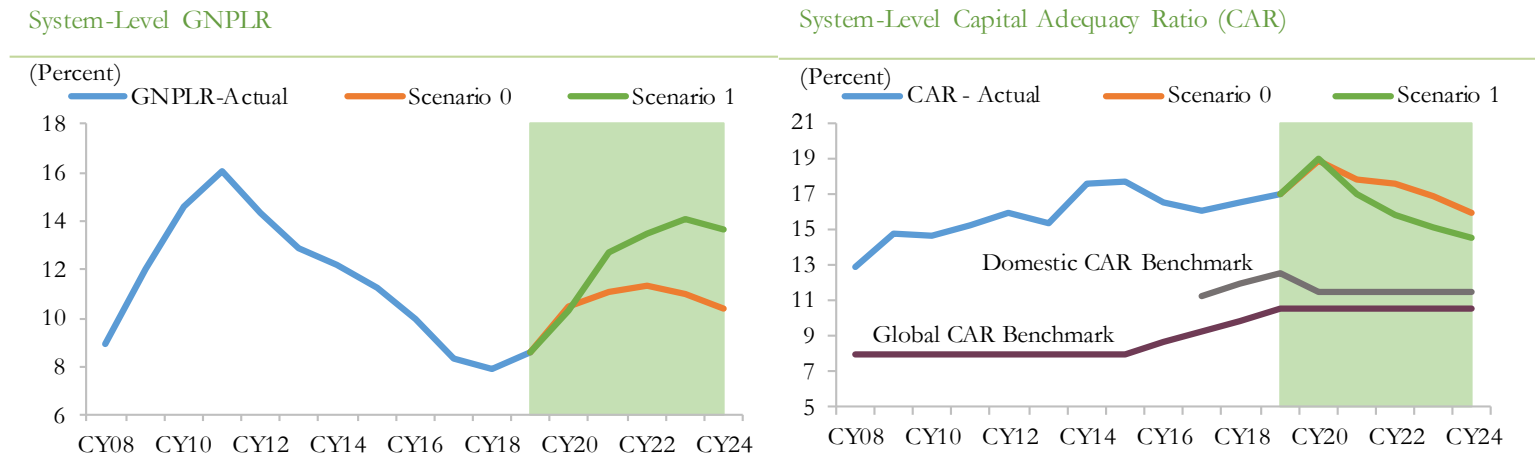
- **Baseline Scenario:**
 - Domestic and global outbreak of COVID-19 to end by FY20
- **Stress Scenario:**
 - A protracted and widespread outbreak of COVID-19 at home and abroad with re-emergence of virus in 2021.
 - A sharp decline in domestic and global economic growth

Resilience Testing - Overall and segments of banking sector

- Banks are segmented on the basis of their asset size, viz., **Small, Medium** and **Large**.
- **Purpose:** To assess how the cross-sectional heterogeneity affects the resilience of banks under two scenarios.

Financial Stability Review 2019

Resilience Analysis: System Level



Source: SBP Calculations

❖ **Baseline Scenario:** GNPLR 1.77%; CAR 1.12% by CY24

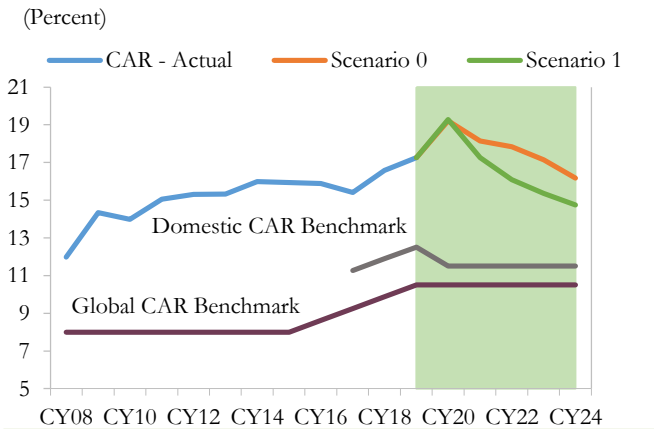
❖ **Stress Scenario:** GNPLR 5.04%; CAR 2.53% by CY24

Conclusion: Banking sector remains resilient to the assumed shocks over the simulation period.

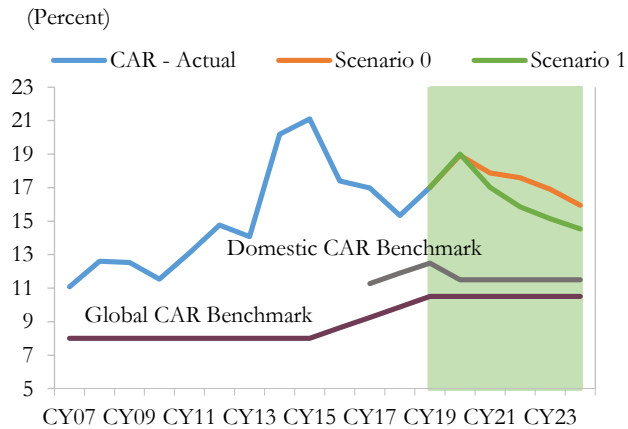
Financial Stability Review 2019

Resilience Analysis: Segment Level

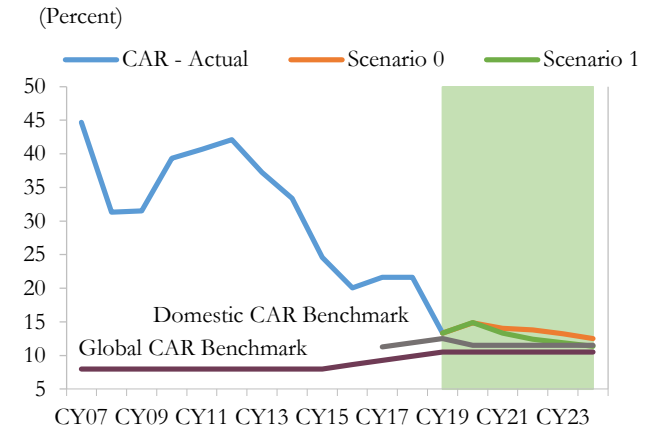
Projected CAR of Large Banks



Projected CAR of Medium Banks



Projected CAR of Small Banks



Large Banks: Remain resilient

Medium Banks: Remain resilient

Small Banks: Fall short of minimum capital adequacy benchmark by Q4CY24 under *stress scenario only*.

