

**Chapter 5 : Risk Model**

**Stress Testing** - Formal discipline for risk and capital management to evaluate a firm's survival capability under extremely adverse unlikely but plausible scenarios. It complements VaR and Expected Shortfall and has specially become important from both regulatory point of view as well as improvement in banks internal risks models.

**Role of Enterprise wide Stress Testing**

**Applications of Stress Testing**

**Stress Test Process**

**Basel Committee on Banking Supervision (BCBS) Principles for Sound Stress Testing Practices and Supervision**

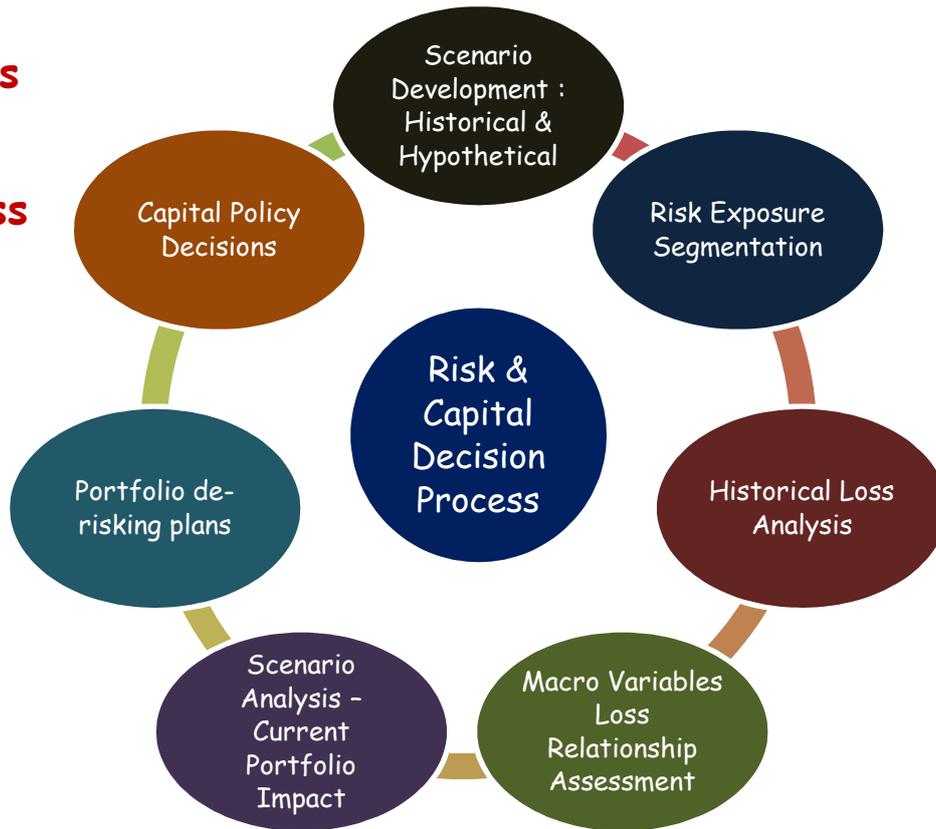
**Role of Enterprise wide Stress Testing**

- Binding Constraint
- Management attention
- Intuition
- Transparency
- Consistency

**Applications of Stress Testing**

- Capital Adequacy
- Risk Reporting, Risk Appetite, Limits
- Strategic/Financial/Contingency Planning
- Capital Allocation, Performance Evaluation and pricing

**Stress Test Process**



**SCENARIO ANALYSIS** - Scenario analysis helps firms to look at their businesses and portfolios downside movement which can either be because of a stress event or a downturn scenario.

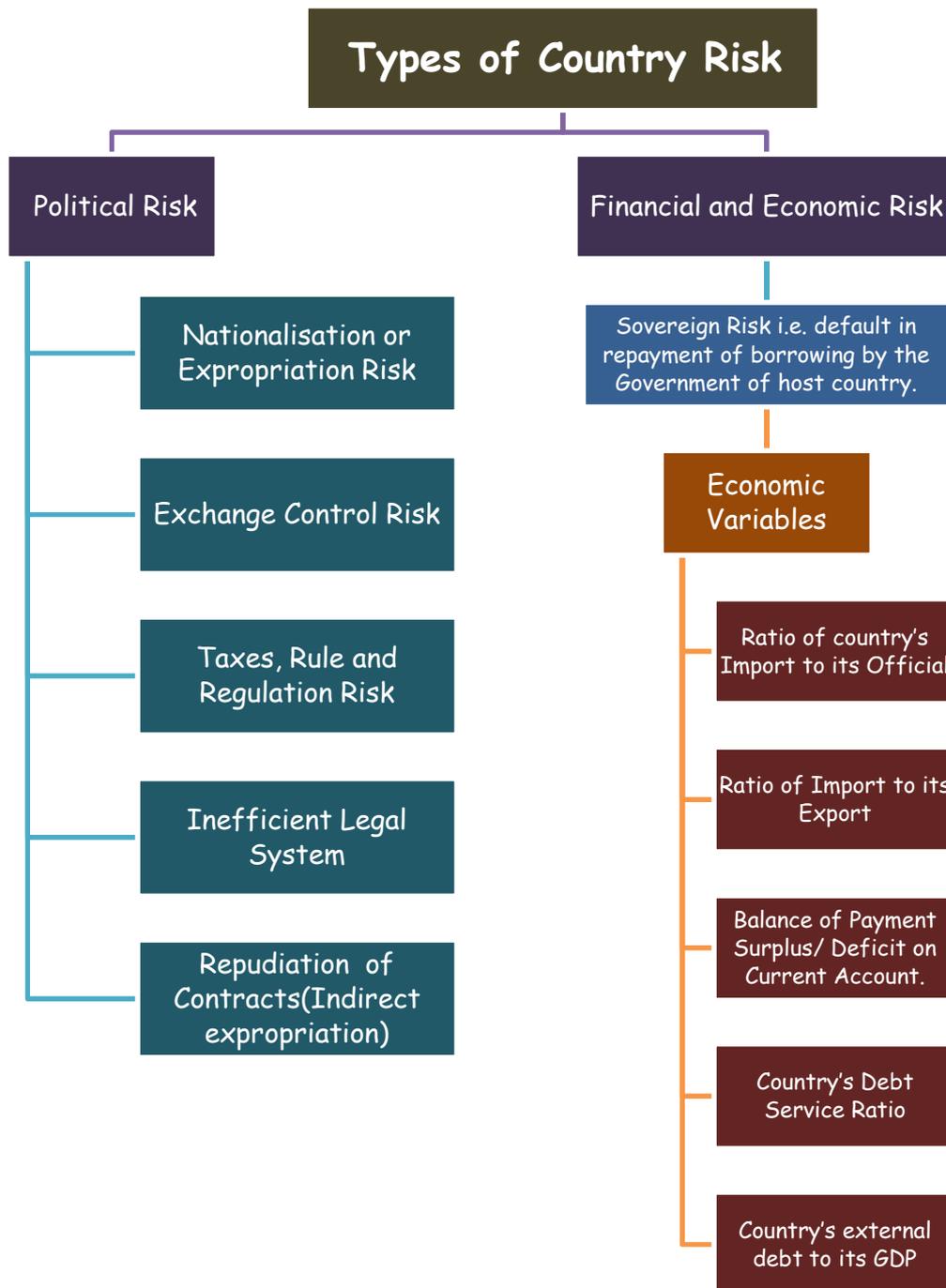
**Scenarios** - sequence or development of events which start from one set of assumptions in order to evaluate or map various outcomes of a particular situation.

Categories of Stress Scenarios-Event based or Portfolio based	Scenario Selection	Drawbacks of Scenario Analysis
<ul style="list-style-type: none"> <li>• Normal Stress Scenarios (Once in 10 years)</li> <li>• Severe Stress Scenarios(Once in life time-Two oil price shocks)</li> <li>• Near-Default Stress Scenarios(Global financial crisis-banks like Citi bank, UBS were at the brink of bankruptcy)</li> <li>• Stress to Default Scenarios-Reverse Stress Test Scenarios(Global financial crises-banks like Lehman went bankrupt)</li> </ul>	<ul style="list-style-type: none"> <li>• The identification of relevant stress events requires the opinions of all relevant experts such as risk managers, economists, business managers, and traders.</li> <li>• Both business cycle stress as well as specific tail stress</li> <li>• Static (single period) and Dynamic(multi period) scenarios.</li> <li>• Historical, Hypothetical and Stressed risk factors scenario</li> </ul>	<ul style="list-style-type: none"> <li>• With a small number of risk factors, the number of alternative scenarios is manageable. As the number of risk factors increases, the number of alternative scenarios could easily become unmanageable.</li> <li>• Subjective</li> <li>• Probabilities not assigned</li> <li>• Some plausible scenarios missed while some implausible scenarios considered.</li> </ul>

## Basel Committee on Banking Supervision (BCBS) Principles for Sound Stress Testing Practices and Supervision

There are 21 principles focusing on role of the board and senior management. There is a requirement for adequate infrastructure. Supervisor also has a significant role to play.

### COUNTRY RISK ANALYSIS (CRA) - Primarily faced by MNCs, FDI and FPI situations



## Country Risk Management Process

- Identification of Risk
- Analysis of Risk
- Evaluation of Risk Management Techniques
- Selection of suitable techniques
- Implementation of Techniques
- Control

