

Stress Testing, Recovery Plans and Early Intervention: How to deal with idiosyncratic and Systemic Stress?

Seminar on Crisis Management and Bank Resolution

Abuja, Nigeria

16-20 January 2017

Amarendra Mohan

Independent Financial Sector Expert

(formerly with the Financial Stability Institute

Bank for International Settlements

Basel, Switzerland)

amarendra.mohan@yahoo.com

Agenda

- Systemic Banks & Systemic Risk – why are we concerned?
- Stress Tests: An Overview
 - Different types
 - Uses and limitations
- Recovery Plans & Early Intervention
 - The EU Approach
- Implementation Experience

Assessing Systemic Importance

- Systemically Important Financial Institutions (SIFIs)
 - Financial institutions whose **distress** or **disorderly failure** would cause **significant disruption** to the **wider financial system and economic activity**
 - Global SIFIs (G-SIFIs)
 - ... **significant dislocations** in the **global financial system** and **adverse economic consequences across a range of countries**
- Do Banks only give rise to systemic risk?

Source- Reducing the moral hazard posed by systemically important financial institutions – FSB Recommendations and Time Lines, 20 October 2010.

Do only Banks give rise to Systemic Risk?

Bear Stearns, an Investment Firm (broker-dealer): -

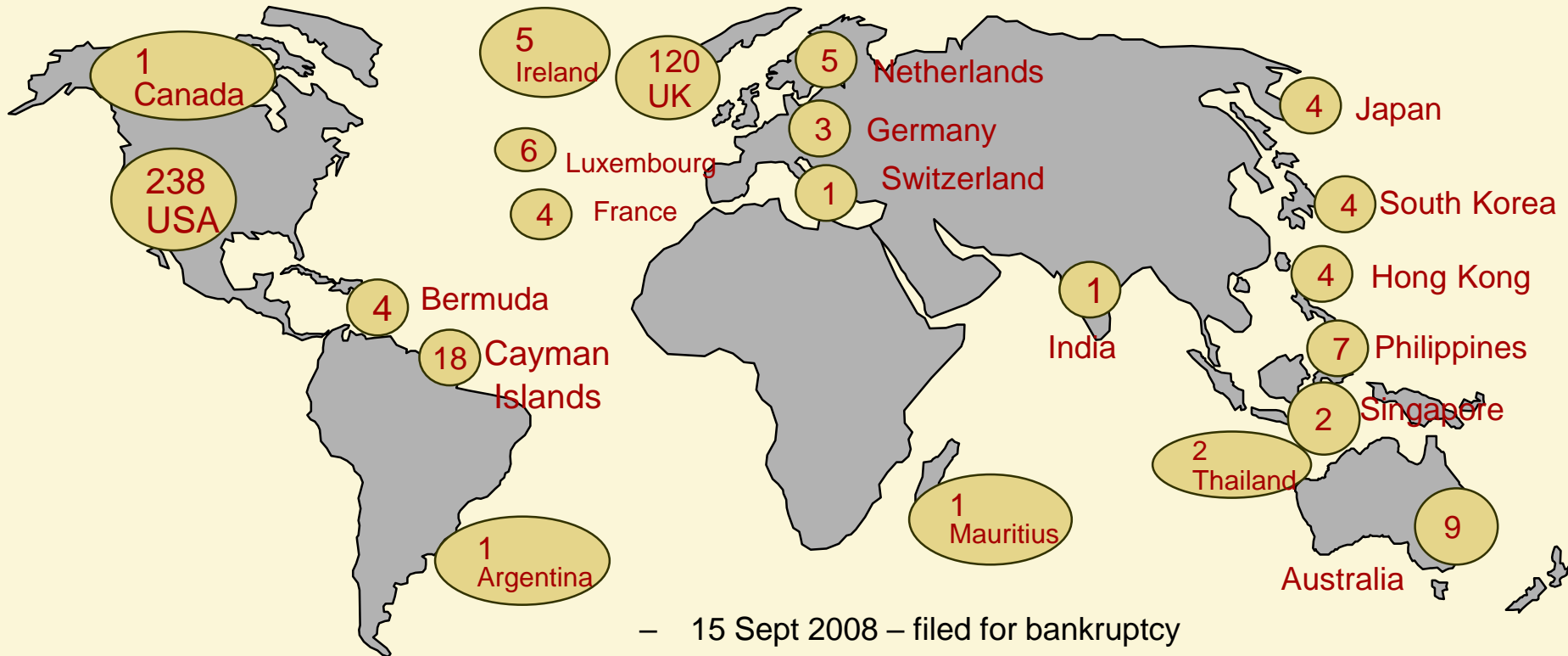
- Bear was rescued because it was “too interconnected to fail”

AIG, an Insurance Company:-

“...The Board determined that, in current circumstances, the disorderly failure of AIG could add to already significant levels of financial market fragility and lead to substantially higher borrowing costs, reduced household wealth, and materially weaker economic performance.”

- Federal Reserve Board (2008)

Lehman Brothers – An Investment Bank (end 2007 – 433 subs, 20 countries)



- 15 Sept 2008 – filed for bankruptcy
- Sixth largest counterparty in OTC derivatives market
- Key Role in repo market
- MMMFs Exposures to LB debt (Reserve Primary wrote off \$785mn, “break the buck”, \$184bn MMMF redemptions)
- Inter bank market seize up

Source: Herring and Carmassi
in Oxford Handbook of Banking

G-SIBs – How big are they?

The G-SIBs have:

- an average of \$1.587 trillion in assets (with a high of \$3.100)
- an average of 1,002 majority-owned subsidiaries (with a high of 2,460)
- Nearly half the subsidiaries classified as non-financial
- an average of 60% of subsidiaries located outside the headquarters country (high of 95%)
- at least one majority-owned subsidiary in 44 different countries (a high of 95)
- an average of 12% of subsidiaries located in off-shore centres (with a high of 28%)

SIBs: The Policy Framework

Probability of Failure

1. Higher Loss Absorbency
 - Addl. CET1
 - CoCos (high trigger)
2. SIE: Sup Intensity & Eff.
Enhanced Sup expectations-
 - Risk management functions
 - RDA & RR
 - Risk governance
 - Internal controls

Impact of Failure

1. Recovery Plan? LGD or PD?
 - Bail-in Debt
2. Resolution Plan
2. Resolvability Assessments
3. Resolution Authority
4. Crisis Management Groups

TBTF Subsidy
Reduce Moral Hazard

$$EI_{SIB} = EI_{non-SIB}$$
$$PD \times LGD = PD \times LGD$$

Why bother with stress tests....?

- “After all, **if the Basel regulations are right, why bother with stress tests?** If bank risk-taking is now supported by sufficient loss-absorbing equity, why is it necessary to check that the banks can absorb the losses they might soon have to take?”
 - FT 27 Aug 2014, Robert Jenkins (former FPC, BOE)

- **“Stress tests have acquired a poor reputation in Europe. They undermined confidence not just in the lenders but also in their supervisors..**

(gave clean bills of health to banks that collapsed soon afterwards, such as Dexia, a Franco-Belgian outfit, in 2011)

This time will be different, insist European officials”

The Economist: “European banking tests - Exam nerves, Will this year’s stress tests do the trick?” Aug 9th 2014

The IRB Approach is Problematic

- “....even with the higher capital ratios required by Basel III, the IRB approach is problematic. The combined complexity and opacity of risk weights ... create manifold risks of gaming, mistake, monitoring difficulty “
- “..the relatively short, backward-looking basis for generating risk weights makes the resulting capital standards likely to be excessively pro-cyclical and insufficiently sensitive to tail risk.”
- “the IRB approach...does not do a very good job of advancing the financial stability and macroprudential aims of prudential regulation.”

Supervisory stress tests much better...

- “The supervisory stress tests developed by the Federal Reserve over the past five years provide a much better risk-sensitive basis for setting minimum capital requirements. “
- “They do not rely on firms’ own loss estimates“
- “They are based on adverse scenarios that would affect the entire economy and take correlated asset holdings into account.”
- “...we have been enhancing the macroprudential features of the annual stress test exercise”

Discard the IRB Approach....?

- “I believe we should consider discarding the IRB approach to risk-weighted capital requirements. “
- “With the Collins Amendment providing a standardized, statutory floor for risk-based capital; the enhanced supplementary leverage ratio providing a stronger back-up capital measure; and the stress tests providing a better risk-sensitive measure that incorporates a macroprudential dimension, the IRB approach has little useful role to play.”
- “....But, in light of all that has happened in the last decade, I see little reason to maintain the requirements of the IRB approach for our largest banks”

Section 171 of Dodd-Frank, popularly known as the Collins Amendment, requires that the federal banking agencies establish minimum consolidated capital requirements for all banking organizations that are not less than “generally applicable” risk-based capital requirements

BCBS Principles for sound stress testing practices and supervision

- Issued Jan 2009, comments till 13 Mar, final paper May 2009
- Stress testing is a tool that *supplements* other risk management approaches and measures --
 - providing forward-looking assessments of risk
 - overcoming limitations of models and historical data
 - supporting internal and external communication
 - feeding into capital and liquidity planning procedures
 - informing the setting of a banks' risk tolerance
 - facilitating the development of risk mitigation or contingency plans across a range of stressed conditions

Principles for sound stress testing practices and supervision

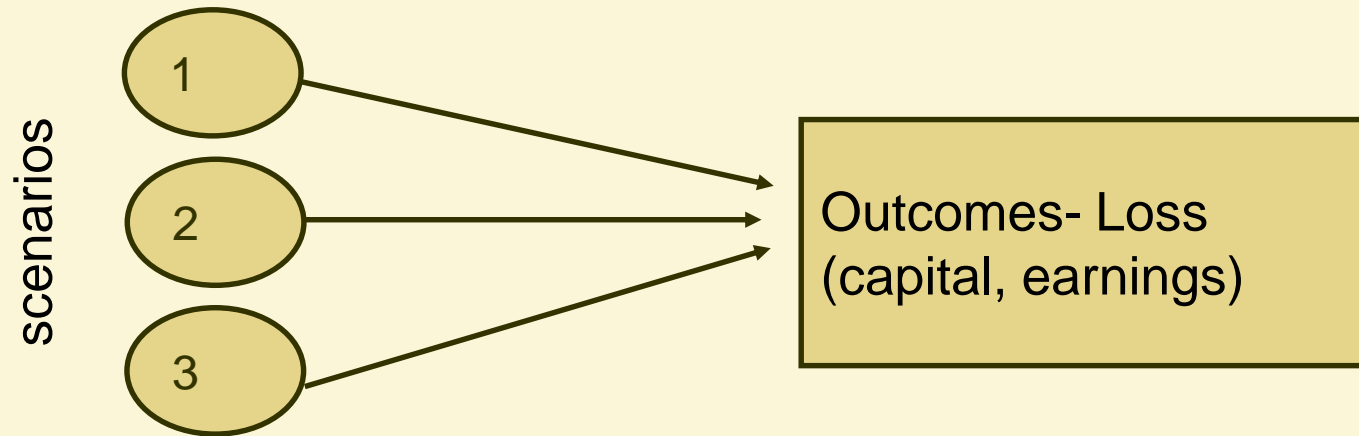
- Stress Test- evaluation of the financial position of a bank under a *severe* but *plausible* scenario to assist in decision making within the bank.
- How *severe*?
- What is *plausible*?

Scenarios: What is severe and plausible?

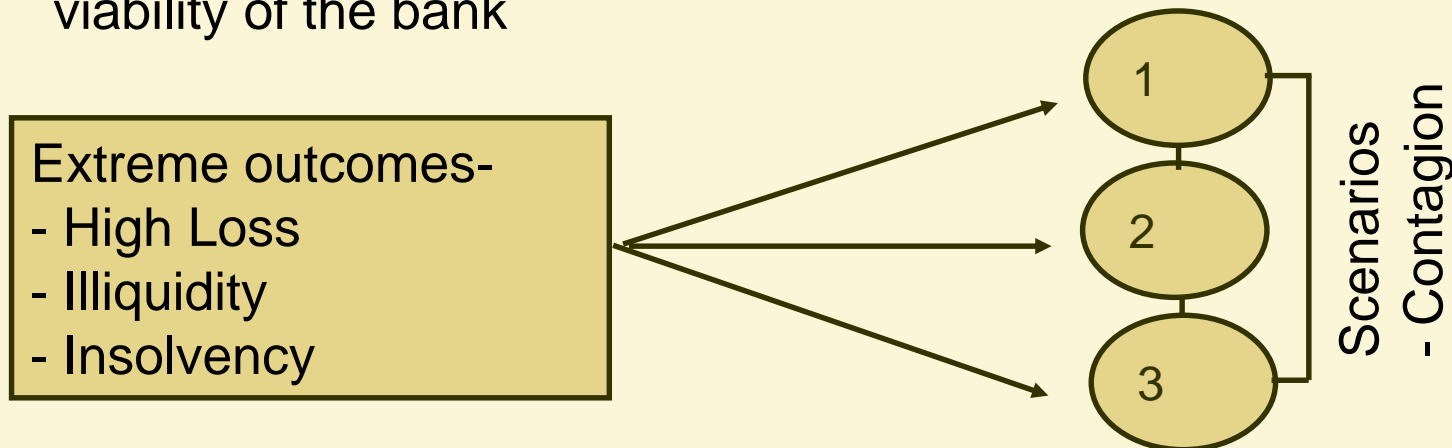
- 11 March 2011: The Fukushima plant was hit by a massive earthquake and then a tsunami- led to fuel melting & significant off-site release of radiation
- Scenario –
 - What is the probability of an earthquake?
 - If only earthquake, Fukushima reactor could have been cooled
 - What is the probability of a Tsunami occurring within 45 minutes of an earthquake and the sea waves reaching a height of 14 metres?
 - Fukushima design was based on 3 meters Tsunami height. The Tsunami flooded emergency cooling pumps, no cooling possible
 - Jan 2011 study in Japan – a 99% probability of a magnitude 7.5 earthquake within thirty years
 - Fukushima earthquake- magnitude 9.0 event (biggest in Japan)
 - IAEA Best standards- protect the plant against rare extreme seismic events that may occur only once every 10,000 years
 - In 869 AD (1142 years prior to 2011)- a magnitude 8.3 earthquake (TEPCO criticised - did not consider this scenario in its planning)

Principles for sound stress testing practices and supervision

Stress Tests



Reverse Stress Tests – what scenarios could challenge the viability of the bank



Principles for sound stress testing practices and supervision

1. Recommendation to banks

- Use of stress testing & integration in risk governance (principles 1-6)
- Stress testing methodology & scenario selection (7-10)
- Specific areas of focus (11-15)

2. Recommendation to supervisors – Principles 16-21

Principles for sound stress testing practices and supervision

- Stress testing should form an integral part of overall governance and risk management culture of the bank
- Board & senior management involvement is essential
 - Board- ultimate responsibility
 - Senior Management- implementation, management & oversight
- ST should be actionable – impacting decision making at the appropriate management level
 - Risk appetite
 - Exposure limits
 - Strategic choices- business strategy
 - Capital planning
 - Liquidity planning

Impact of REGULATORY stress tests on banks' business models

Q. Have you ever revised your business plans in response to regulatory stress testing results?

	No, never	Yes, but very rarely	Yes, occasionally	Yes, regularly
Short-term plan/budget	55%	40%	5%	0%
Medium-term plan	52%	44%	4%	0%

The survey was conducted online during November 2013 and includes banks from 12 different countries across 5 continents, Average asset size GBP 500bn and total participant assets GBP 12tn

Source: *Passing the stress test: PwC survey on regulatory stress testing in banks, Jan 2014*

Macro Stress Tests as Early Warning Indicators

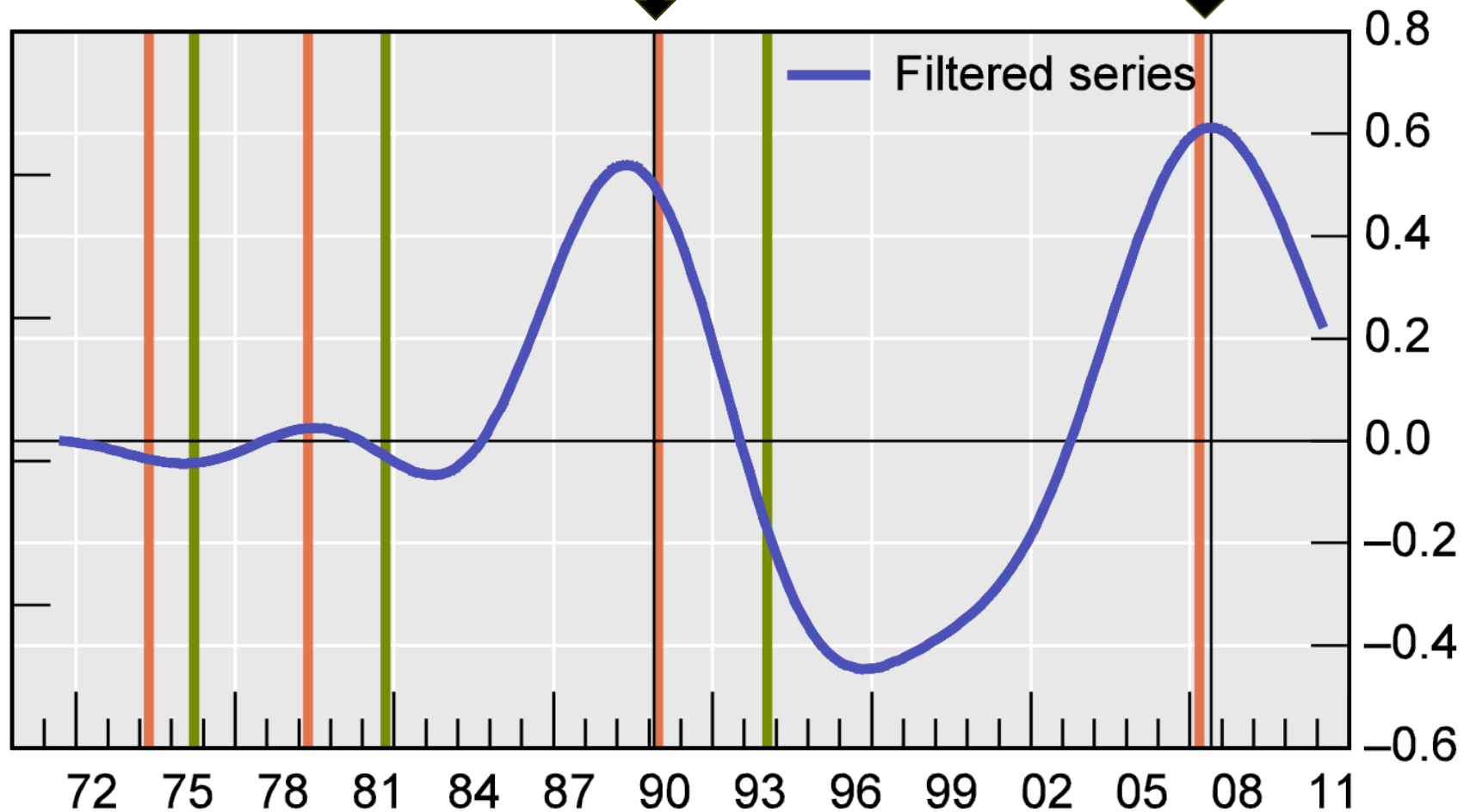
- *“The banking system’s reported financial indicators are above minimum regulatory requirements and stress tests suggest that the system is resilient”*
 - (IMF, *Iceland: Financial Stability Assessment – update*, 19 August 2008, p 5)
-But IMF not alone in saying:
 - “The system is sound”;
 - “The institution is strong and resilient”.

Macro Stress Tests as Early Warning Indicators

- Macro stress tests are ill-suited as early warning devices, ie as tools for identifying vulnerabilities during tranquil times and for triggering remedial action.
- But can be quite effective as a crisis management tool (...messages may be more reliable)
- Essence of financial instability - *normal-size shocks cause the system to break down.*
 - An unstable financial system is a fragile financial system; it is not one that would break down only if hit by severe macroeconomic shocks (typical stress tests assumption)

Crises tend to begin at the *peak* of the medium-term financial cycle (credit + property prices)

United States



EU Stress Tests: A Case Study

- January 2011: EBA announces the 2011 stress test.
- 15 July 2011: stress test results of 90 banks published. 8 banks (5 Spanish, 2 Greek, 1 Austrian) fall below capital threshold of 5%. Total capital shortfall- € 2,5 bn
- **Dexia** assessed safe bank in Europe (ranked No 13 out of 91)
 - 10 October 2011: Belgium, France and Luxembourg agree to restructure Dexia and to grant it a financing guarantee of up to 90 billion euro.
 - *EBA comments: unable to mark down sovereign debt, mentioned weak position if sovereign debt marked to market*
- **Bankia's** Core Tier 1 ratio would fall to 5,4% by end 2012 (adverse scenario), still above required min of 5 %
 - May 2012: Bankia, largest holder of real estate assets in Spain, is nationalized
 - requests a bailout of 19 billion euro
 - revises 2011 P&L stt. from profit of €309mn to a loss of € 4,3 bn
 - *EBA comments – ST without asset quality review*
- Spain undertakes stress test of 14 bkg groups (90% of bkg assets)
 - adverse scenario, total capital needs ≈ €60 bn.
 - over 3-year period, banks' cumulative credit losses ≈ €270 bn

EU Stress Tests: A Case Study

- 2013 Beginning: **SNS Bank** (a daughter company of SNS Reaal) is nationalised by Dutch government
 - Heavy losses in its real estate holdings, particularly abroad
 - 2011 stress tests, Tier 1 capital ratio of SNS bank was 8,4%, above req. min. of 5%, and would fall to 7% at end 2012
 - EBA- **ST without asset quality review**
- 2013 End: Two biggest banks in Slovenia — **Nova Ljubljanska banka (NLB d.d.) & Nova Kreditna Banka Maribor (NKBM d.d.)** subjected to **asset quality review** & stress test
 - 2011 EBA Stress Test - no capital shortfall
 - 2013 exercise led the Slovene government to recapitalise NLB d.d. by €1,551 mn and NKBM d.d. by € 870 mn
- *What do you conclude based on above?*

Stress Tests : Typology

Features	Macroprudential (surveillance)	Micro prudential (supervisory)	Crisis Management	Internal Risk Management
Objective	Systemic risk and vulnerability – system wide monitoring	Individual firm’s health – supervision of institution	For bank recapitalisation, business restructuring plans	Risks in individual portfolios, business planning
Organised by	Central banks, Macroprudential agencies, IMF	Supervisor (Microprud. Agency)	Macro and/or microprudential agency	Financial institutions
Coverage of institutions	All, or most institutions, especially SIFIs	Supervised banks	All distressed, near-distressed banks	Individual bank
Frequency	Annual/semi-annual or with FSAP	Individual banks as needed (ST with common assumptions)	As needed	High (daily or weekly) for market risks, lower for enterprise-wide exercise

Stress Tests : Typology

Features	Macroprudential (surveillance)	Micro prudential (supervisory)	Crisis Management	Internal Risk Management
Nature of shocks	Systemic & common shocks across institutions. Extreme shocks	Often idiosyncratic, common macro assumptions for horizontal reviews	Ongoing systemic risks (baseline), relatively mild shocks, focus on solvency	Idiosyncratic or systemic (for that institution)
Likelihood of assumed shocks	Low	Low	High	Varies
Assessment criteria (hurdle rates)	Current or prospective regulatory req., or maybe alternative thresholds	Current or prospective regulatory req., or maybe alternative thresholds	Current or prospective regulatory req., or maybe alternative thresholds	Internal risk tolerance indicators & regulatory requirements

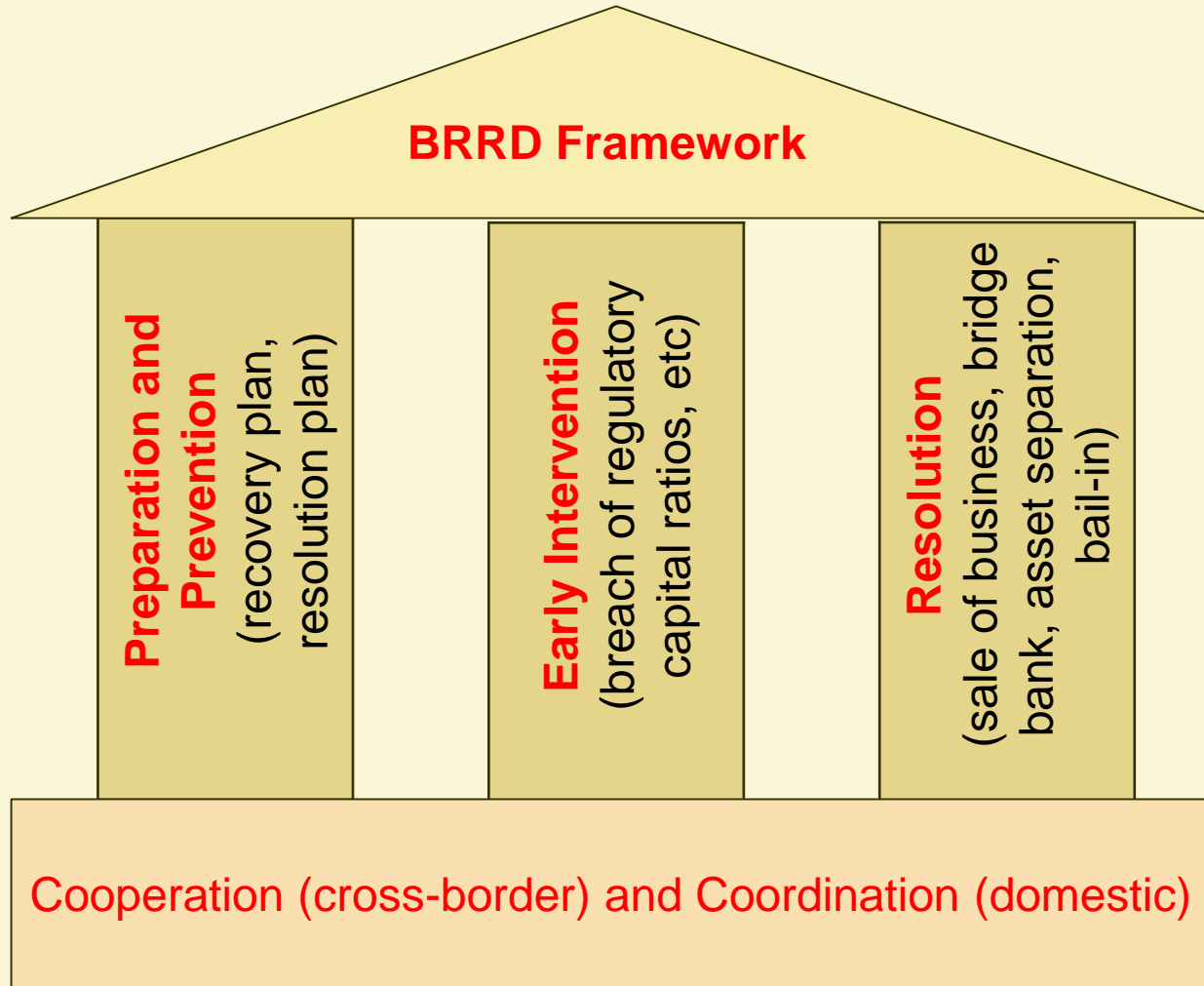
Stress Tests : Typology

Features	Macroprudential (surveillance)	Micro prudential (supervisory)	Crisis Management	Internal Risk Management
Key output metric	Aggregate indicators for system, & their dispersion	Individual institution indicators	Individual institution indicators	Individual institution indicators
Follow-up measures after test	No follow up for individual banks, (used for discussion of potential macroprud. issues)	Weak banks asked to explain/take action	“Failing” banks to take major mgmt. action, (recapitalisation, maybe with govt support)	May or may not require management action
Publication	Often	Rarely	Varies	No
Examples	FSAP, GFSR, Financial Stability Reports	CCAR (US), Basel framework tests, CEBS/EBA	SCAP(US), CEBS/EBA (2010/2011) exercises in IMF prog countries (Greece, Ireland)	RiskMetrics (JPMorgan’s VaR model)

FSB: Key Attributes of Effective Resolution regimes

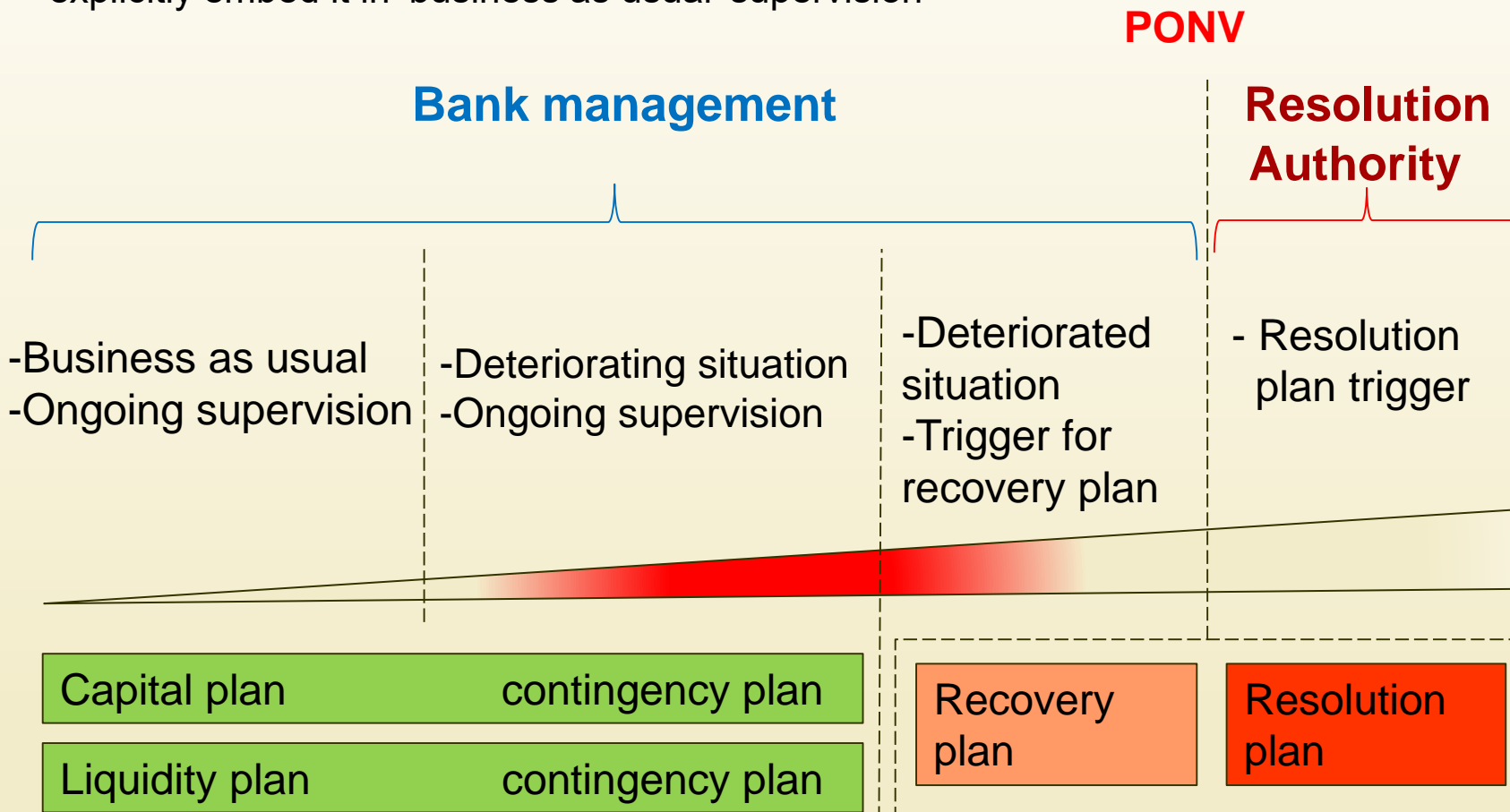
- KA #11: RRP- Recovery & Resolution Planning to cover at a *minimum* domestically incorporated firms that could be *systemically significant or critical if they fail*
- Recovery plan - a guide to the recovery of a distressed firm
 - firm not yet met conditions for resolution/ entered resolution
 - reasonable prospect of recovery if appropriate recovery measures are taken, eg,
 - reduce the risk profile of a firm and conserve capital
 - strategic options (divestiture of business lines, restructuring of liabilities)
 - Consider range of scenarios: idiosyncratic/ market wide stress
 - scenarios that address capital shortfalls and liquidity pressures
 - processes to ensure timely implementation of recovery options in a range of stress situations
- Max **2/ 53** issue

EU: Bank Recovery and Resolution Directive (BRRD)



Ongoing Supervision, Recovery and Resolution

FSB: “The extent to which recovery planning has been integrated in jurisdictions’ ongoing supervisory processes is not known. .. It would be useful for authorities to explicitly embed it in ‘business as usual’ supervision”



EU Framework for Recovery Planning

- BRRD requires each institution (bank/investment firm) to prepare a recovery plan
 - part of firm's governance arrangements under CRDIV
 - Prepare recovery plans at least on an annual basis
 - The “management body” of the institution shall assess and approve the recovery plan
 - No assumption of any access to/ receipt of extraordinary public financial support
 - Include appropriate conditions/procedures to ensure timely implementation of recovery actions and recovery options
 - Include System-wide and idiosyncratic stress scenarios

EU: Content of Recovery plans

- (i) a **summary** of the recovery plan
- (ii) information on **governance**: objective- timely implementation
 - Persons responsible
 - escalation and decision-making process
 - indicators which trigger this process
- (iii) a **strategic analysis**- vital for assessment of recovery options by Supervisory Authority
 - description of institution/group, core business lines/ critical functions
 - internal and external interconnectedness (legal and financial structures, common services provided)
 - recovery options designed to respond to financial stress scenarios, including capital and liquidity actions (contingency funding)
 - impact and feasibility of the options
 - Stress testing is an important element of the assessment

EU: Content of Recovery plans

(iv) a communication plan

- communication within the institution/ group
- external communication with shareholders/ other investors, supervisory authorities and general public

(v) a description of preparatory measures

- Recovery planning - an ongoing process reflecting the changing profile of an institution or group
- To facilitate implementation & remove impediments- preparatory measures and a timeline for completing them

EU- Recovery Plans: Scenarios

- At least three scenario types: systemwide event, idiosyncratic event, a combination of system-wide and idiosyncratic events
- Scenarios to meet each of the following requirements:
 - based on events most relevant to the institution/ group
 - threat of failure unless recovery measures implemented
 - exceptional but plausible events
- Each scenario to include impact on each of the following:
 - available capital
 - available liquidity
 - risk profile
 - profitability
 - operations, including payment & settlement operations
 - reputation
- Reverse Stress Tests - a starting point for developing 'near-default' scenarios

EU- Recovery Plans: Scenarios

System-wide events

- Failure of significant counterparties affecting financial stability
- Decrease in liquidity available in the interbank lending market
- Increased country risk & capital outflow from a significant country of operation of the institution or the group
- Adverse movements in the price of assets in one/several markets
- Macroeconomic downturn

Idiosyncratic events

- Failure of significant counterparties
- Damage to institution's or group's reputation
- Severe outflow of liquidity
- Adverse movements in prices of assets to which firm exposed
- Severe credit losses
- Severe operational risk loss

EU: Supervisory Assessment of Recovery Plans

- Supervisory Authority - assess recovery plan within 6 months
- Three evaluation areas-
 1. **completeness** of a recovery plan – has all required information
 - Group recovery plan- arrangements for intra-group financial support, if required
 - obstacles to implementation of group recovery measures
 - practical or legal impediments to the prompt transfer of own funds or the repayment of liabilities/ assets within the group
 2. Use of **professional judgement**:
 - Clarity (self-explanatory, clear and understandable language)
 - Relevance of information: identifying options to maintain/ restore financial strength and viability of institution/ group
 - Comprehensiveness: sufficient level of detail, wide range of recovery options and indicators
 - Internal consistency

EU: Supervisory Assessment of Recovery Plans

3. Overall **credibility** of the recovery plan:
 - consistency of the recovery plan with general corporate governance
 - plausibility of each recovery option
 - Realistic timeline to implement the options
 - Adequate level of entity/ group's preparedness
 - assumptions and valuations made within the recovery plan and each recovery option are realistic and plausible
 - extent to which the group recovery plan can achieve stabilisation of entity/ group as a whole

EU: Supervisory Assessment of Recovery Plans

After Assessing the Recovery Plan, Supervisory Authority may direct the institution to:

- reduce the risk profile of the institution, including liquidity risk
- enable timely recapitalisation measures
- review the institution's strategy and structure
- make changes to the funding strategy so as to improve the resilience of the core business lines and critical functions
- make changes to the firm's governance structure
- **Recovery Plan Indicators:**
 - Each recovery plan to include a framework of indicators established by the institution which identifies the *points at which appropriate actions referred to in the plan may be taken*

Minimum list of recovery plan indicators

(each indicator is subject to the possibility for an institution to justify that it is not relevant for it, however in such a case it should be substituted with another indicator which is more relevant for this institution)

1. Capital indicators

a) Common Equity Tier 1 ratio

b) Total Capital ratio

c) Leverage ratio

2. Liquidity indicators

a) Liquidity Coverage Ratio

b) Net Stable Funding Ratio

c) Cost of wholesale funding

3. Profitability indicators

a) (Return on Assets) or (Return on Equity)

b) Significant operational losses

4. Asset quality indicators

a) Growth rate of gross non-performing loans

b) Coverage ratio [Provisions / (Total non-performing loans)]

5. Market-based indicators

a) Rating under negative review or rating downgrade

b) CDS spread

c) Stock price variation

6. Macroeconomic indicators

a) GDP variations

b) CDS of sovereigns

(The **first four categories are mandatory**, while the last two categories may be excluded if an institution justifies that they are not relevant for it)

3. Additional recovery plan indicators

(non-exhaustive list provided for illustration purposes only)

1. Capital indicators

a) (Retained earnings and Reserves) / Total Equity

b) Adverse information on the financial position of significant counterparties

2. Liquidity indicators

a) Concentration of liquidity and funding sources

b) Cost of total funding (retail and wholesale funding)

c) Average tenure of wholesale funding

d) Contractual maturity mismatch

e) Available unencumbered assets

3. Profitability indicators

a) Cost-income ratio (Operating costs / Operating income)

b) Net interest margin

4. Asset quality indicators

a) Net non-performing loans / Equity

b) (Gross non-performing loans) / Total loans

c) Growth rate of impairments on financial assets

d) Non-performing loans by significant geographic or sector concentration

e) Forborne exposures/ Total exposures

5. Market-based indicators

a) Price to book ratio

b) Reputational threat to the institution or significant reputational damage

6. Macroeconomic indicators

a) Rating under negative review or rating downgrade of sovereigns

b) Unemployment rate

EU: Early Intervention

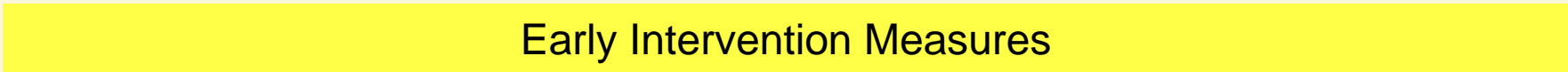
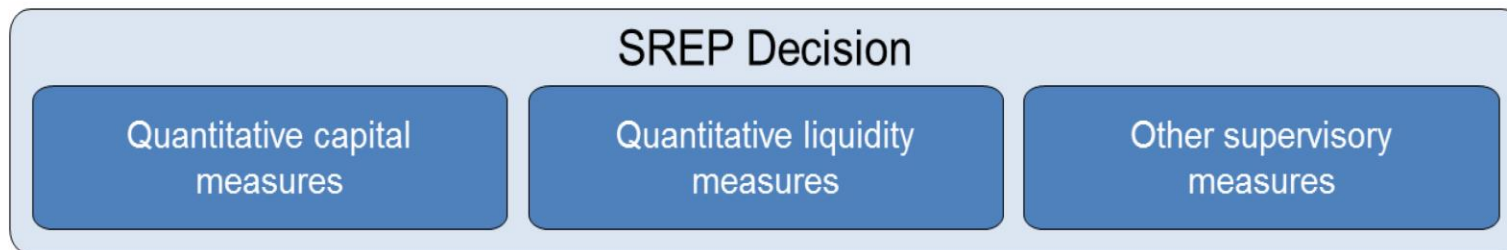
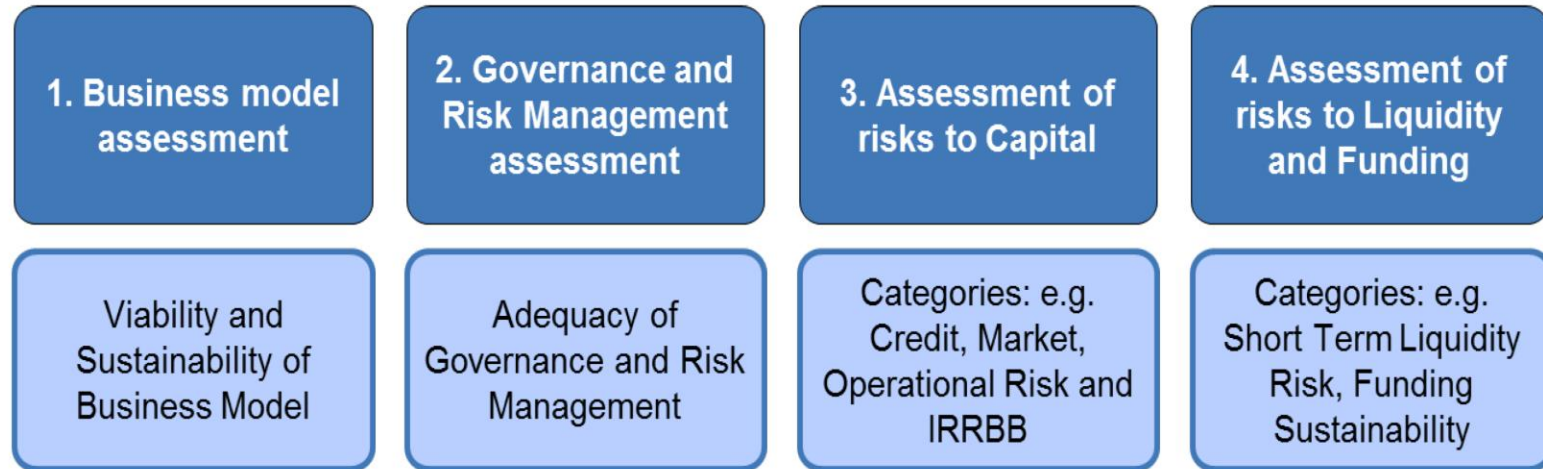
- Early intervention- key component of effective ongoing supervision
 - can prevent an identified weakness from developing into a threat to safety and soundness (eg, liquidity risk)
- CRD IV - powers to intervene at an early stage as a part of ongoing supervision (eg, Pillar 2)
- BRRD Early Intervention measures - supplements the existing supervisory processes
 - additional powers to effectively handle crises in ailing institutions (additional set of early intervention measures)
- Early intervention - if an institution infringes or, is likely in the near future to infringe prudential requirements in CRR/CRDIV
 - a rapidly deteriorating financial condition
 - deteriorating liquidity situation
 - increasing level of leverage, NPLs, concentration of exposures
 - assessment about infringement on the basis of a set of triggers, which *may* include firm's **capital req (P1+P2)+ 1.5% (not buffers)**

EU: Early Intervention

EBA - triggers for applying early intervention measures:

- Overall SREP score and pre-defined combinations of the Overall SREP score and scores for individual SREP elements
- Monitoring of key financial/ non-financial indicators under SREP:
 - identify indicators and set thresholds relevant to the specificities of individual firms or peer groups
 - Identification of material changes or anomalies in indicators, including breaches of thresholds – further probe and action
- **Significant Events** indicating that the conditions for early intervention are met
 - Major operational risk events
 - Significant deterioration in MREL
 - Unexpected loss of senior management, not replaced
 - Significant ratings downgrades, etc.

ECB: SREP Methodology



SREP Scores & Early Intervention

Overall SREP Score	What does it denote?
1	The risks identified pose no discernible risk to the viability of the institution.
2	The risks identified pose a low level of risk to the viability of the institution.
3	The risks identified pose a medium level of risk to the viability of the institution.
4	The risks identified pose a high level of risk to the viability of the institution.
F	The institution is considered to be ‘failing or likely to fail’ (FOLTF) <ul style="list-style-type: none"> - There is an immediate risk to the viability of the institution. - The institution meets the conditions for ‘failing or likely to fail’, as specified in Article 32(4) of Directive 2014/59/EU (BRRD), for example, when the institution is likely to infringe the requirements for continuing authorisation

Early intervention measures if Overall SREP score is ‘3’ & individual SREP score “4” for

Individual SREP Elements	Scoring
business model and strategy	The individual SREP elements are rated on a score ranging from ‘1’ (no discernible risk) to ‘4’ (high risk)
internal governance and institution-wide controls	
individual risks to capital	
capital adequacy	
individual risks to liquidity and funding	
liquidity adequacy	

EU: Early Intervention Measures

Article 27 of BRRD - powers for **early intervention measures**:

- require management to implement measure(s) in recovery plan
- require management to draw up an action programme to overcome problems (with timetable)
- require management to convene a meeting of shareholders, set the agenda & require certain decisions to be considered for adoption by the shareholders
- Remove/replace 1/ more members of management if found unfit
- draw up plan for negotiation/restructuring of debt with creditors
- require changes to the institution's business strategy
- require changes to legal/operational structures of the firm
- acquire information necessary in order to update the resolution plan and prepare for possible resolution of firm and for valuation of assets and liabilities of the firm
- appoint a **temporary administrator**

Implementation of Recovery Planning in FSB member countries

- 7 countries (with no GSIBs) have not yet put in place any requirements relating to Recovery Plans
 - plan to mandate such a requirement in future
(Argentina, Brazil, India, Indonesia, Korea, Saudi Arabia & Turkey)
- The remaining 17 FSB countries have implemented recovery planning by way of a statute or regulatory/supervisory req.
 - 8 through supervisory rules: (US, South Africa, Singapore, Japan, HK, China, Canada, Australia)
 - 9 through statute: EU has implemented Bank Recovery and Resolution Directive (BRRD), which applies to all EEA members (France, Germany, Italy, Netherlands, Spain, Switzerland, UK). Other than EU – Mexico, Russia
- All countries require submission of recovery plans *at least* on an *annual basis*

Implementation of Recovery Planning in FSB member countries

Scope	FSB member countries
Only G-SIBs	<p>USA</p> <p>Other banks above a threshold based on asset size (US\$50 billion) are subject to a supervisory expectation that they will engage in recovery planning that may involve development of recovery plans</p>
G-SIBs and D-SIBS	<p>Switzerland</p> <p>Japan- G-SIBs and other SIBs, if necessary</p> <p>Singapore- DSIBs and other bank notified by MAS</p>
DSIBs and other banks	<p>Australia- DSIBs & bank with assets > A\$5bn (currently 18)</p> <p>Canada- 6 DSIBs, mid-size banks, others on a case by case basis</p> <p>Russia– 10 DSIBs & any other banks at supervisor’s request</p>
All Banks (10 countries)	<p>China- banking groups;</p> <p>France – all banks (Currently 10+GSIBs)</p> <p>Germany – all banks (currently 22+GSIBs)</p> <p>Hong Kong – all banks (currently 19)</p> <p>Italy – All banks (currently 12+ GSIBs)</p> <p>Mexico- All commercial banks (currently 45)</p> <p>Netherlands- All banks (26 banks + G-SIBs)</p> <p>South Africa – all banks & DSIBs (currently 31)</p> <p>Spain – all banks</p> <p>UK- all banks</p>

Implementation of Recovery Planning in FSB member countries

- Different approach in communicating recovery plan content requirements:
 - 11 countries - primary and secondary legislation, technical guidance/ public statements to specify content
 - 5 (Australia, Canada, China, Russia & Singapore)- content instructions by non-public means, eg, supervisory letters
- 14 countries approve/ review recovery plans
 - 3 (Australia, South Africa, US) have no formal requirement but supervisors review the plans in practice
- Authorities have the power to require banks to make changes to those plans

Stress Testing, Recovery Plans and Early Intervention: How to deal with idiosyncratic and Systemic Stress?

Seminar on Crisis Management and Bank Resolution

Abuja, Nigeria

16-20 January 2017

Amarendra Mohan

Independent Financial Sector Expert

(formerly with the Financial Stability Institute

Bank for International Settlements

Basel, Switzerland)

amarendra.mohan@yahoo.com