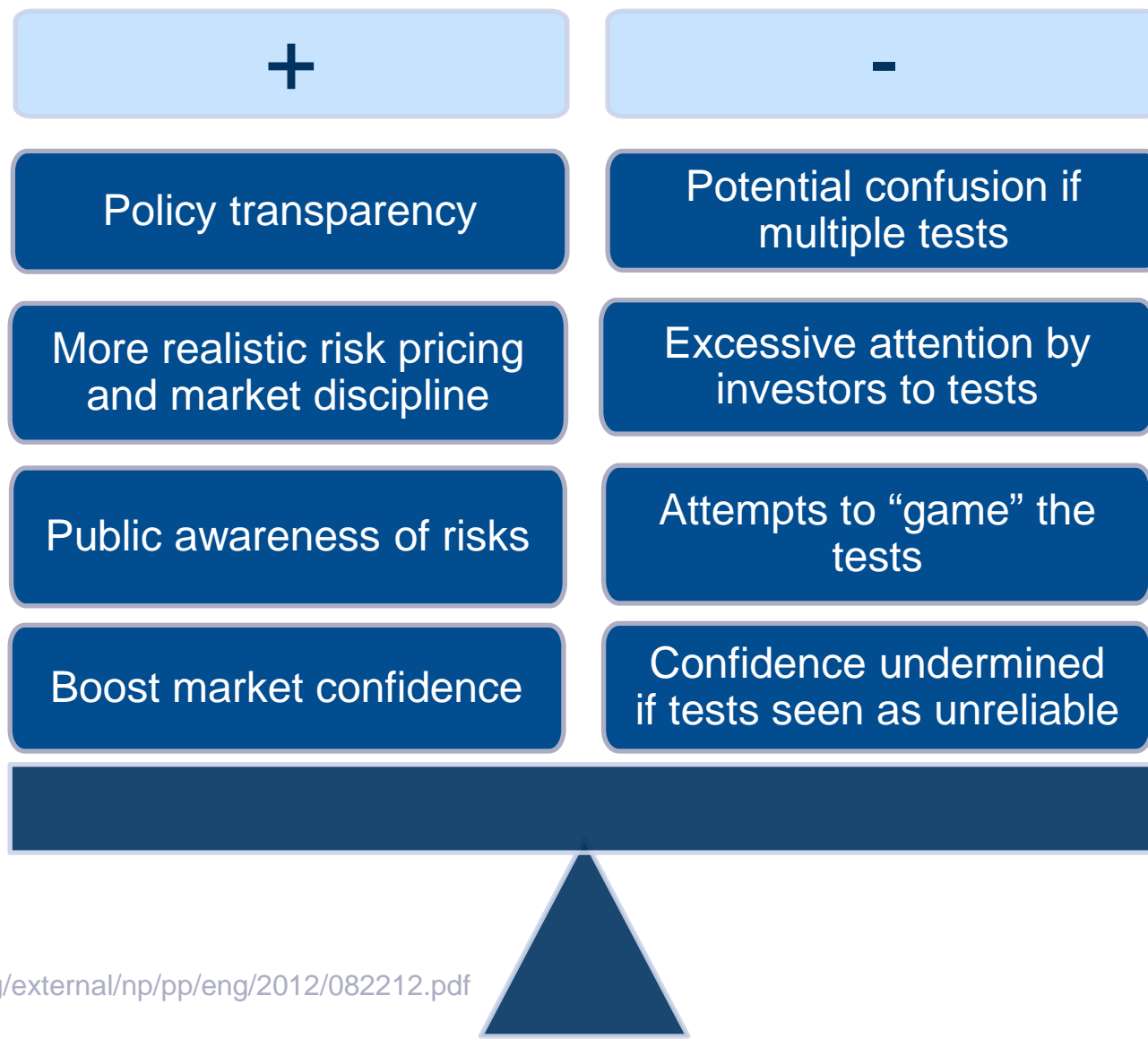# Macroprudential Stress Testing as a Policy Tool: Communication

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**EUROPEAN CENTRAL BANK CONFERENCE
MACROPRUDENTIAL STRESS TESTING
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Views expressed here do not necessarily represent those of the IMF.

To communicate or not to communicate?

| +	-
Policy transparency	Potential confusion if multiple tests
More realistic risk pricing and market discipline	Excessive attention by investors to tests
Public awareness of risks	Attempts to "game" the tests
Boost market confidence	Confidence undermined if tests seen as unreliable

Trust is easy to break, hard to rebuild.

If communications are perceived as "spin," they further erode trust.
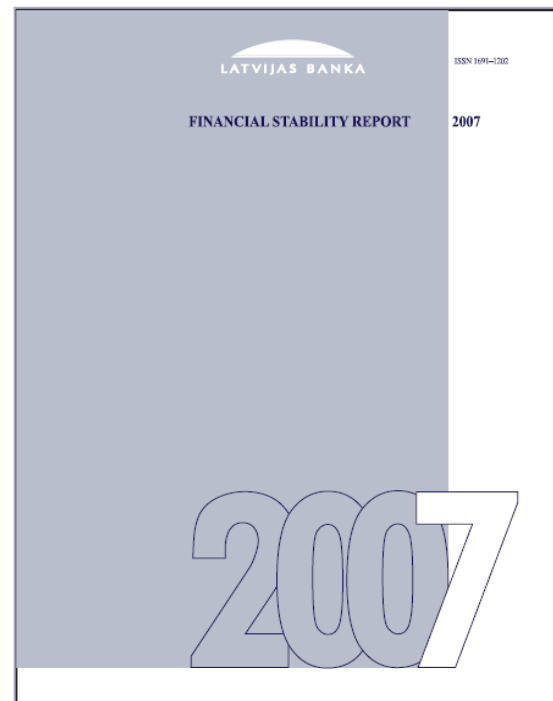
To be successful, policies and communications must be trustworthy.

Communication breakdowns
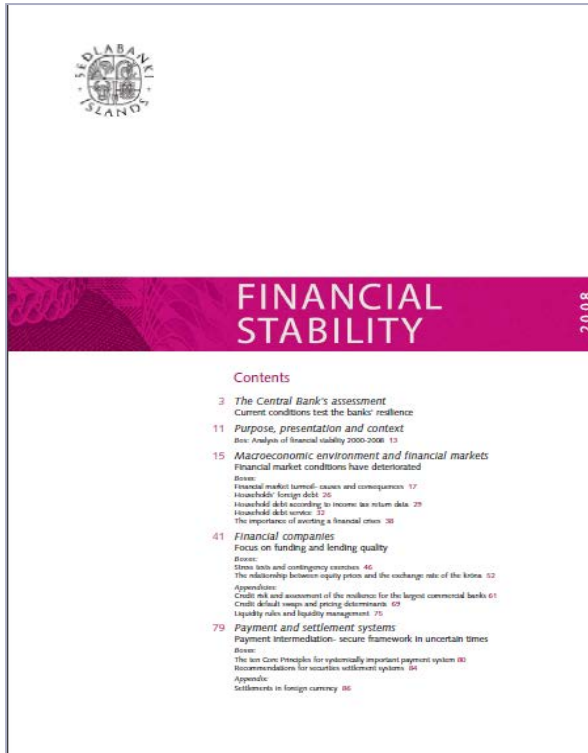
"Banks are well prepared to withstand increased delinquency and loan losses, which have been extremely low to date…"

Iceland's Financial Stability Report (2008)

"Low probability that in 2008 existing risks might materialize to the extent that it will have an impact on bank performance…"

Latvia's Financial Stability Report (2007)

Measuring quality of communication

	Clarity	Consistency	Coverage
A. Aims			
B. Overall assessment			
C. Issues			
D. Data, assumptions, tools			
E. Structure, other features			

"Three Cs"

Key elements

E.g.: Is it clear what data and assumptions were used to arrive at the presented results?

4

Baseline model
(probit/panel with random effects)

$$FS_{i,t} = \beta_1 + \beta_2 FSR_{i,t} + \beta_3 MACRO_{i,t-1} + \beta_4 BANK_{i,t-1} + \beta_5 IQ_{i,t-1} + \mu_{i,t}$$

Dependent variable
• Probability of a banking crisis
• Moody's Banking Sector Financial Strength Rating
• Stock market volatility
• ICRG sovereign financial risk rating

Independent variables
• Two alternative FSR specifications: (i) FSR publication dummy; and (ii) FSR quality index (CCC framework as in Čihák, 2006)
• MACRO: Macroeconomic controls
• BANK: Banking controls
• IQ: Institutional quality controls

• 1-year median banking system EDF

To address endogeneity/selection bias, we estimate a two equation model:

$$FSR_{i,t} = \alpha_1 + \alpha_2 Crisis_{i,t-3} + \alpha_3 GDP_{i,t-1} + \alpha_4 Credit/GDP_{i,t-1} + \alpha_5 FSRN_{i,t-1} + \varepsilon_{i,t}$$

$$FS_{i,t} = \gamma_1 + \gamma_2 FSR_{i,t} + \gamma_3 MACRO_{i,t-1} + \gamma_4 BANK_{i,t-1} + \gamma_5 IQ_{i,t-1} + \lambda_t + \nu_{i,t}$$

- $FSR_{i,t}$=1 if country i published FSR at time t, =0 otherwise
- $Crisis_{i,t-3}$=1 if country i had banking crisis at t-3, =0 otherwise
- $GDP_{i,t-1}$ and $Credit/GDP_{i,t-1}$ are GDP per capita and credit over GDP at $t-1$
- $FSRN_{t-1}$ = total number of countries publishing FSRs at $t-1$
- λ_t = inverse of Mills ratio (probability density of prediction in first equation, divided by cumulative normal density)
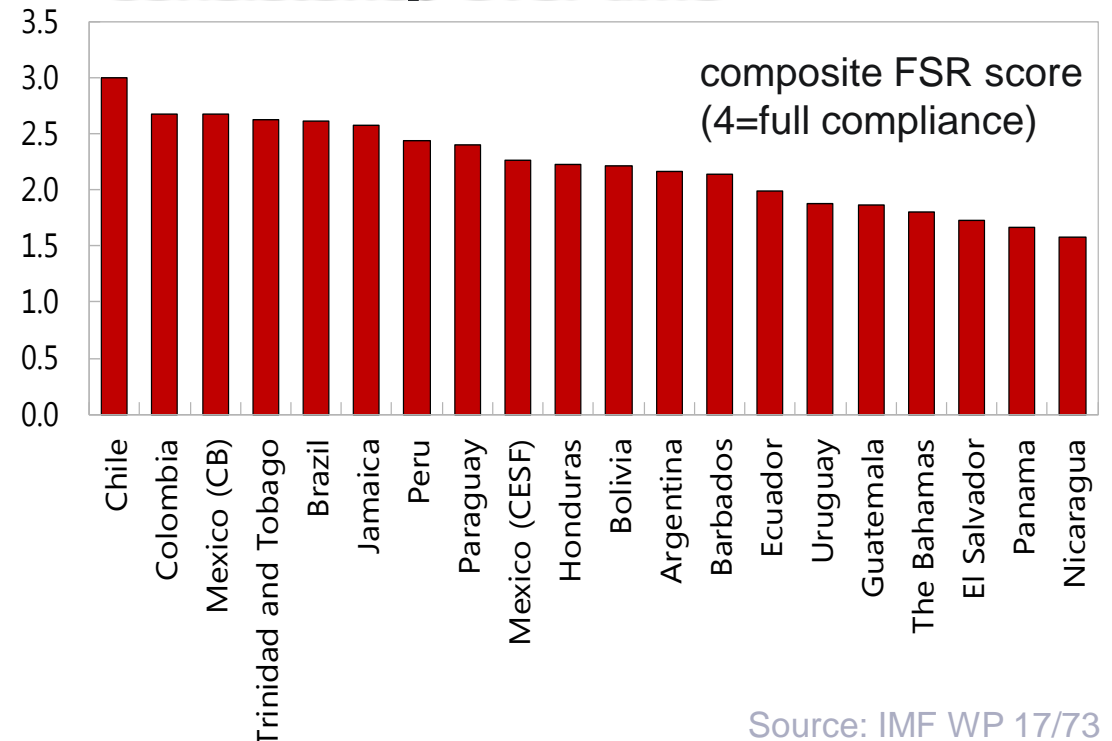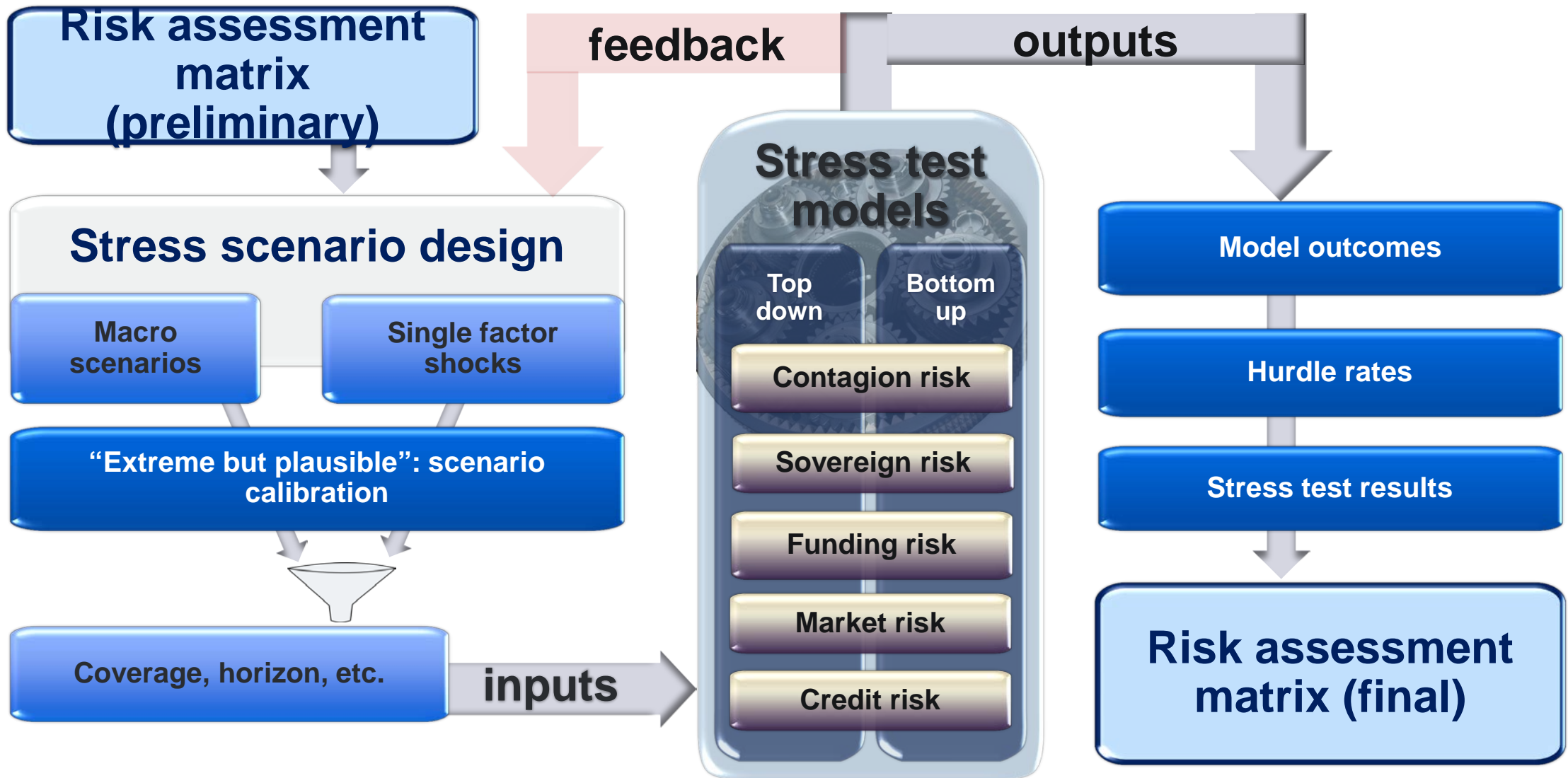
Effectiveness depends on the "three Cs"

✓

- Higher-quality reporting (clear, consistent, with good coverage) is associated with more stable financial environments, even controlling for macro, banking, and other factors.

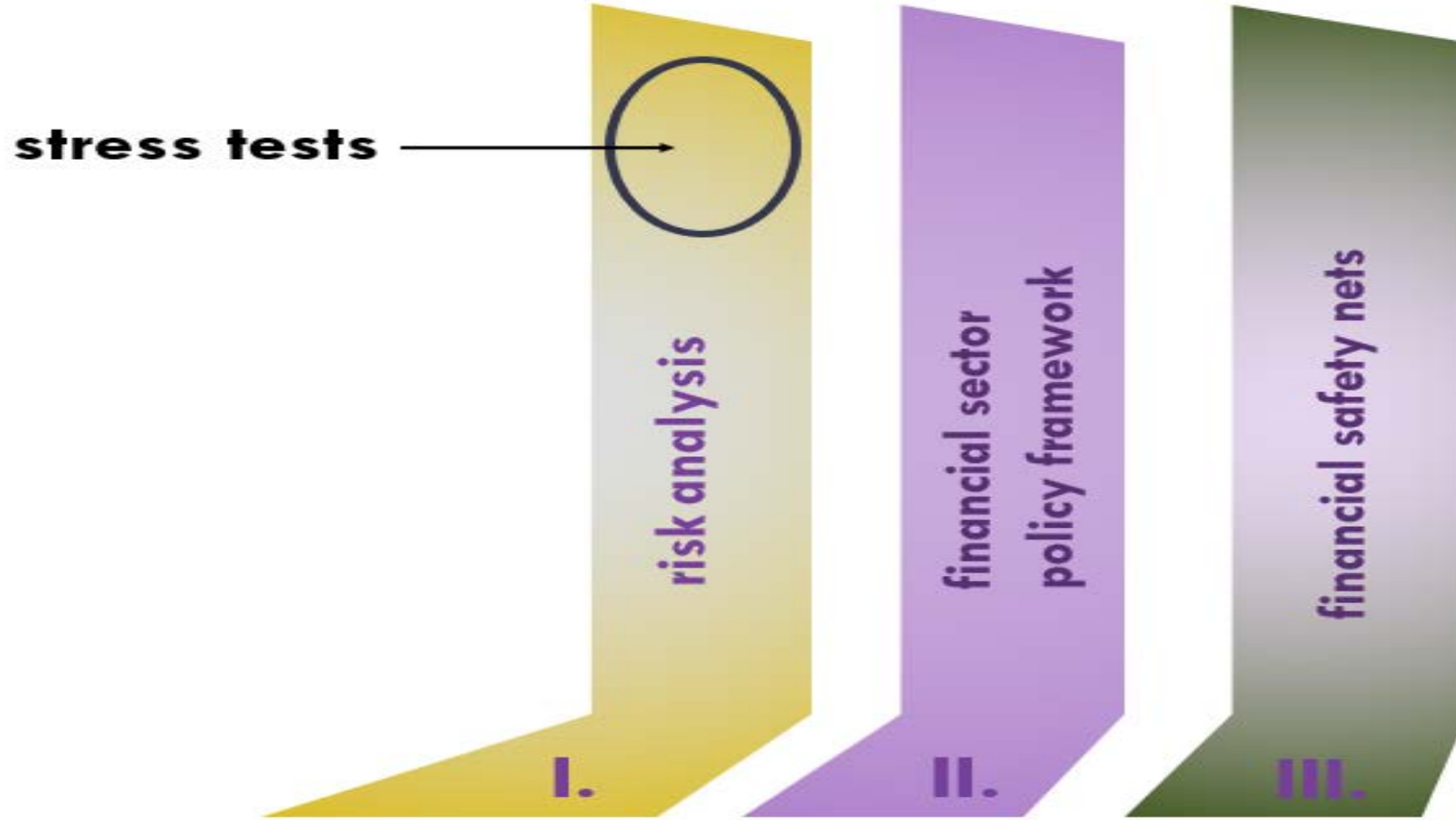- Publication itself has no robust empirical link to financial stability

! Despite improvements, reporting still leave much to be desired in terms of clarity, coverage, and consistency over time

composite FSR score (4=full compliance)
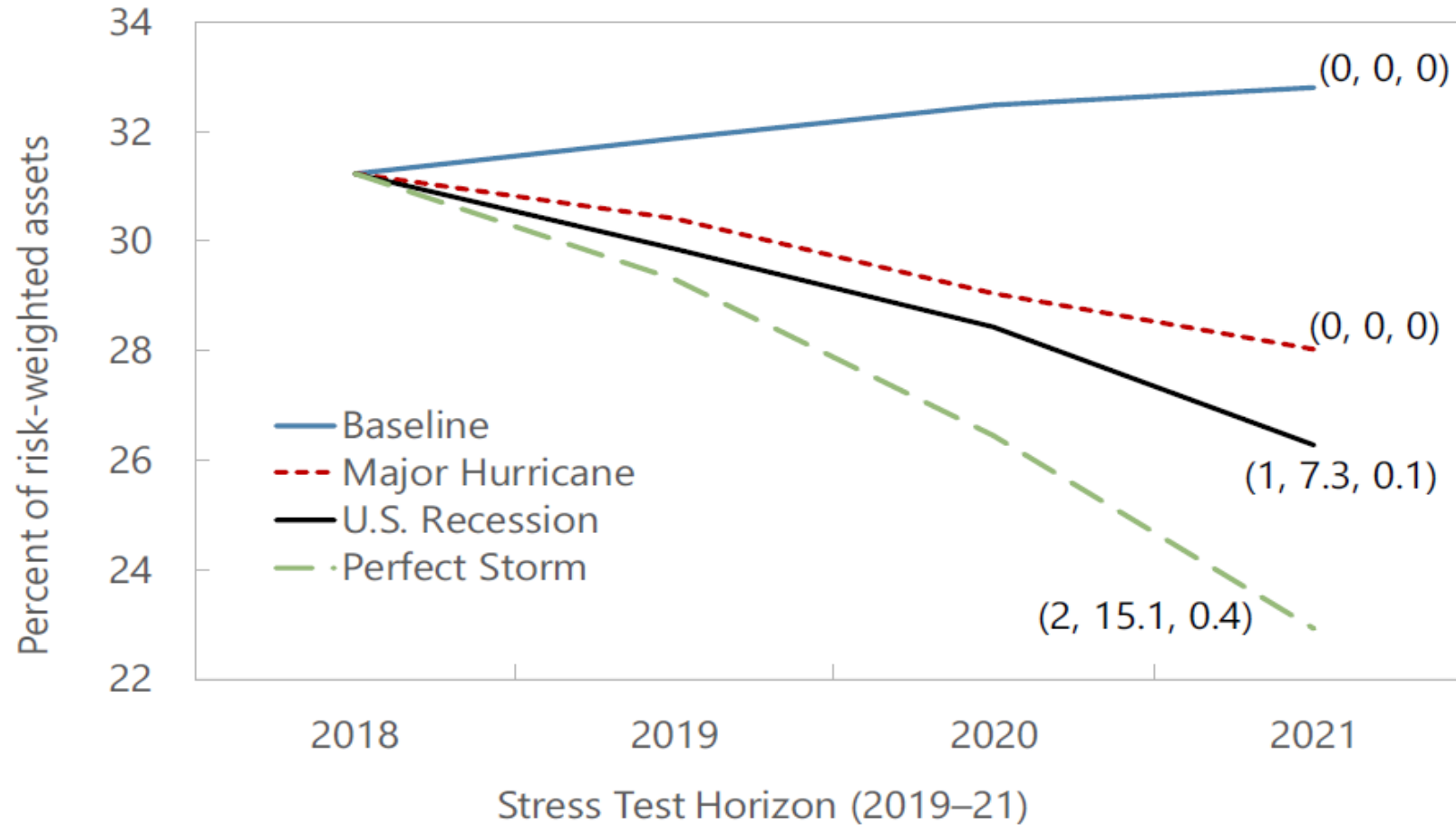
Challenge: communicate this clearly!

Risk assessment matrix (preliminary)

feedback

outputs

Stress scenario design

- Macro scenarios
- Single factor shocks

"Extreme but plausible": scenario calibration

Coverage, horizon, etc.

inputs

Stress test models

Top down	Bottom up
Contagion risk	
Sovereign risk	
Funding risk	
Market risk	
Credit risk	

Model outcomes

Hurdle rates

Stress test results

Risk assessment matrix (final)

Pillars of financial stability assessment

stress tests

I. risk analysis

II. financial sector policy framework

III. financial safety nets

Challenge: communicate this clearly!

1/ Numbers in parenthesis show for 2021, respectively, the number of banks with stressed CARs below 14 percent, the percentage of the system's assets they represent, and the potential recapitalization needs in percent of nominal GDP.

FSAP: views from country officials on future topics

(Percent of responses; up to five choices; top-10 selections)

New types of tests

Transition risk
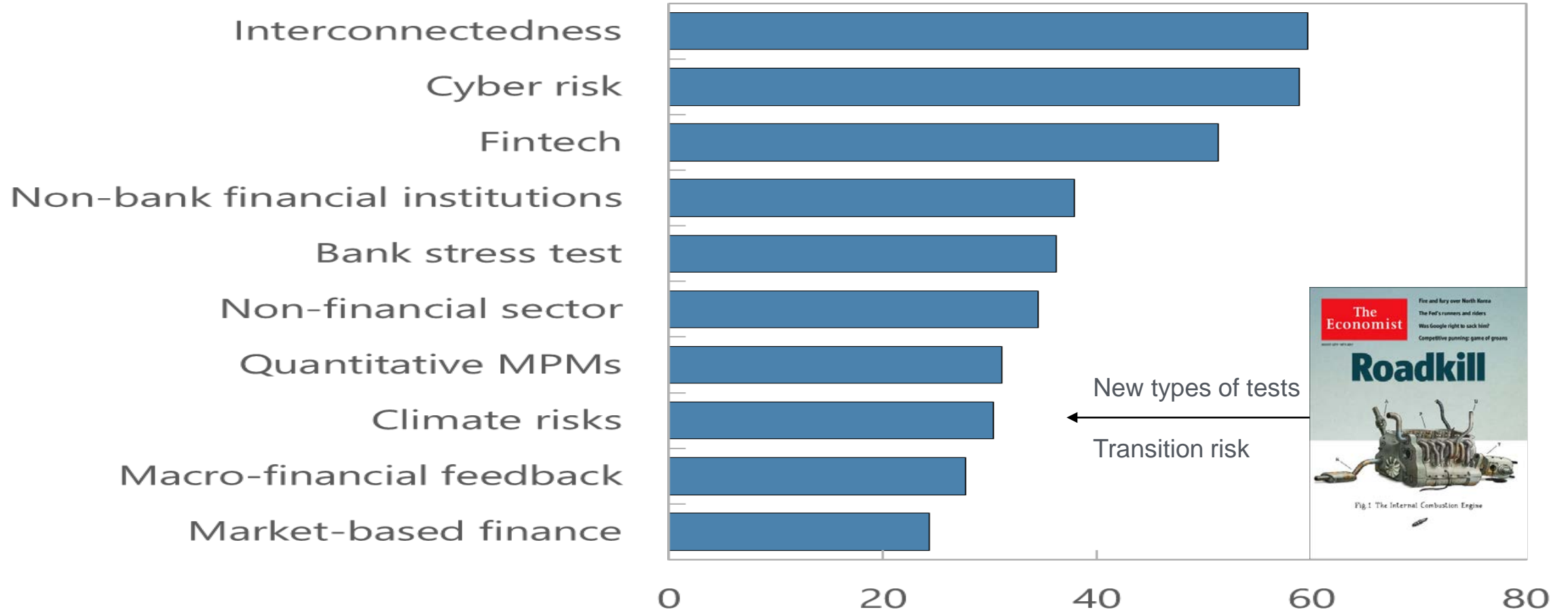
MPM = Macroprudential measures

Thank You