

Banking System Resilience in ASEAN: Evidence from Normalized SRISK Measures and Stress Scenarios

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Session 3A: Evidence-Based Policy Making Governance

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The views expressed in this paper are those of the author and should not be interpreted as reflecting the views of the BSP.

One shock, three resilience questions

Raw SRISK tells us the size of a capital shortfall. Normalization tells us whether the system can absorb it.

BALANCE SHEET

SAR

If banks deleverage through asset sales, how large is the shortfall relative to total banking assets?

CAPITAL MARKET

SMR

If banks issue equity, how large is the shortfall relative to listed-bank market capitalization?

MACROECONOMY

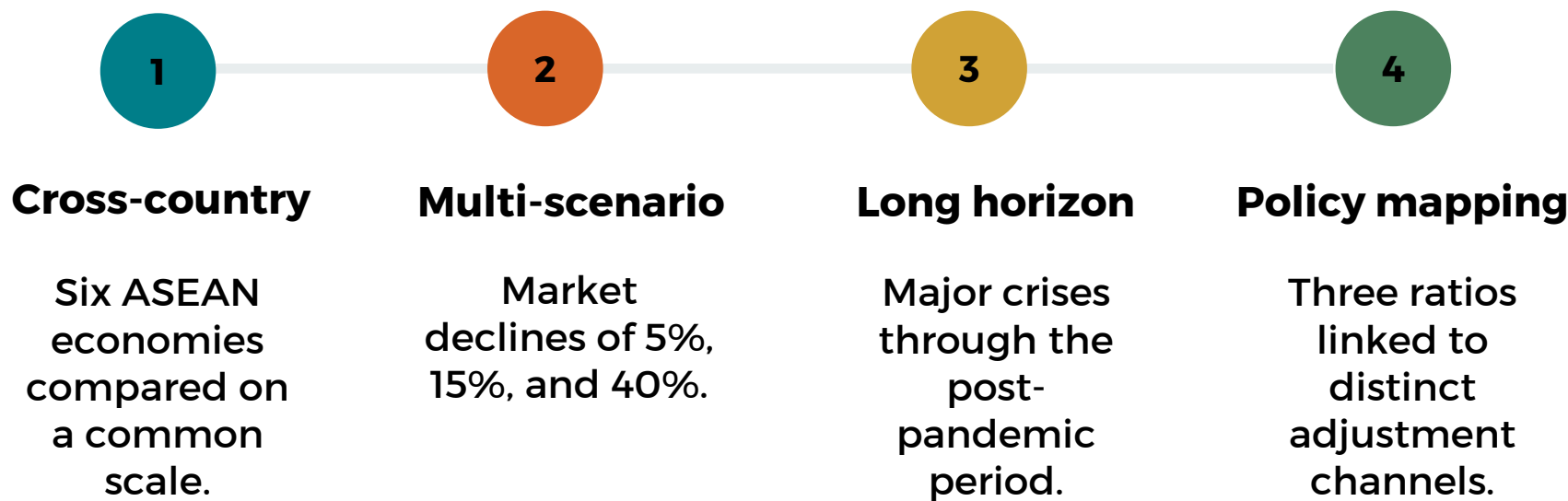
SGR

If losses migrate to the public balance sheet, how large is the shortfall relative to GDP?

Same numerator. Different absorption channels. Different policy signals.

What this study adds

The gap is not another ranking of large banks—it is comparable stress evidence across structurally different ASEAN systems.



Research question: How does systemic-risk exposure affect capital resilience—and, through the banking channel, macroeconomic stability?

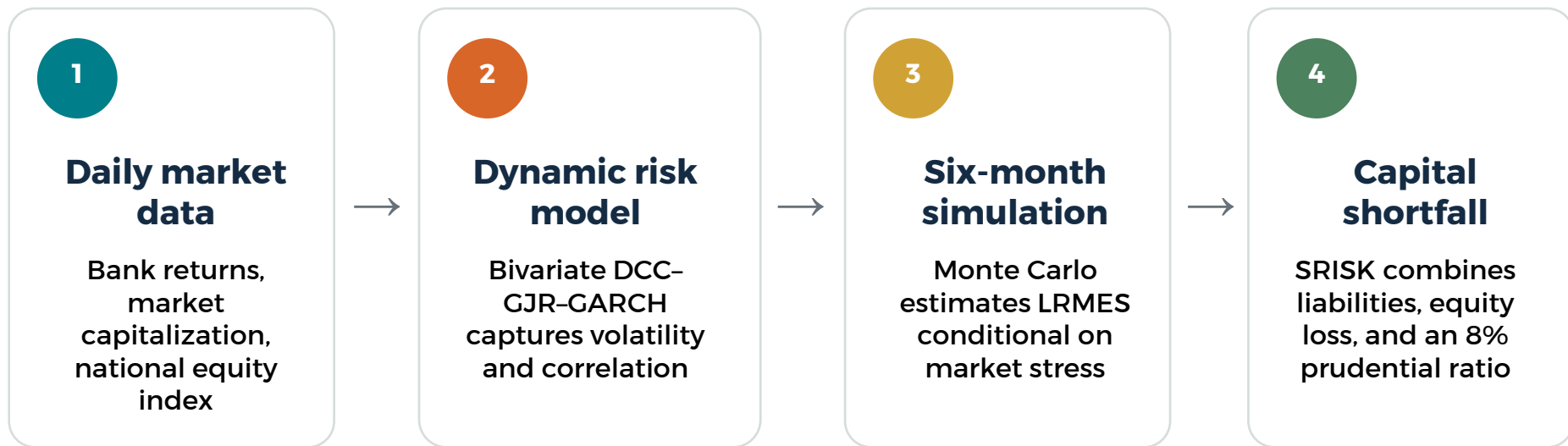
A broad, but uneven, listed-bank sample

105 banks; approximately 75.2% of system assets across the six economies.

Country	Banks	Asset coverage	Period starts	Period ends
Indonesia	45	89.0%	Apr 2001	Jul 2025
Malaysia	10	91.7%	Jan 1999	Jul 2025
Philippines	17	72.7%	Apr 2000	Jul 2025
Singapore	3	53.1%	Oct 1998	Jul 2025
Thailand	12	85.5%	Dec 1997	Jul 2025
Vietnam	18	59.3%	Apr 2008	Jul 2025

Coverage caution: Singapore (53.1%) and Vietnam (59.3%) results warrant more caution because listed-bank coverage is lower.

From market losses to expected capital shortfall



SRISK = expected capital required to restore the prudential capital ratio after a systemic market decline

Aggregate SRISK sums only positive institution-level shortfalls.

Three scenarios test the full stress spectrum

CONSERVATIVE

-5%

market decline

Moderate market volatility

ADVERSE

-15%

market decline

Tail events observed in
ASEAN markets since 2000

SEVERELY ADVERSE

-40%

market decline

Crisis-like stress used in the
SRISK literature

The objective is not point forecasting; it is comparative resilience under common shocks.

SRISK Estimation

SRISK is defined as the expected capital shortfall conditional on systemic event, and as expressed below:

$$SRISK_{i,t} = kD_{i,t} - (1 - k)W_{i,t}(1 - LRMES_{i,t})$$

where $W_{i,t}$ is the market value of equity, $D_{i,t}$ is the book value of debt, and k is the prudential capital fraction set to 10 percent. LRMES is the expected multi-period arithmetic return on firm equity, conditional on the systemic event ($R_{m,t+1;t+h} < C$, set to 5%, 15%, & 40%), is expressed as:

$$LRMES_{i,t} = -E_t(R_{i,t+1;t+h} | R_{m,t+1;t+h} < C)$$

Where $R_{i,t+1;t+h}$ is the multi-period arithmetic return on firm equity between period $t + 1$ and $t + h$. The LRMES quantifies the extent to which an institution's equity is expected to fall under such extreme market conditions.

Normalization reveals who absorbs the shortfall

SAR

SRISK / total assets

ABSORPTION BASE

Bank balance sheet

POLICY CHANNEL

Asset sales / deleveraging

SMR

SRISK / bank market cap

ABSORPTION BASE

Equity investors

POLICY CHANNEL

New share issuance

SGR

SRISK / nominal GDP

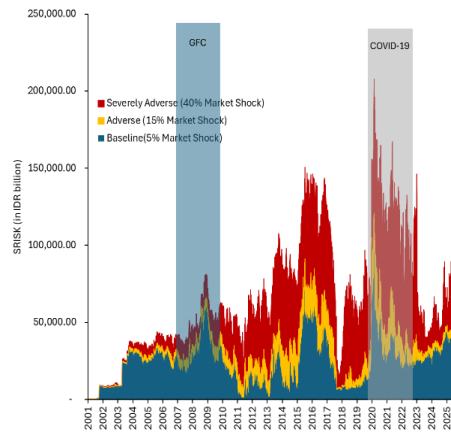
ABSORPTION BASE

Domestic economy

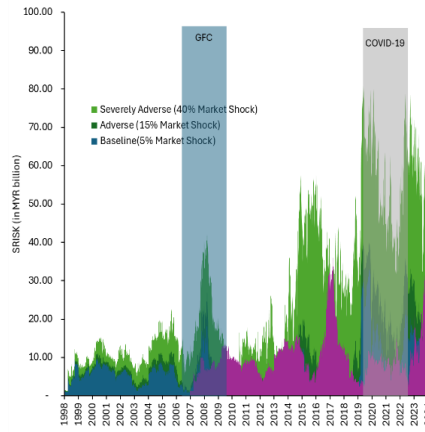
POLICY CHANNEL

Public or economy-wide
absorption

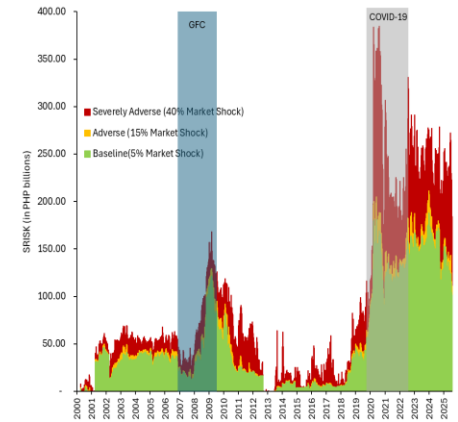
SRISK Results - Historical



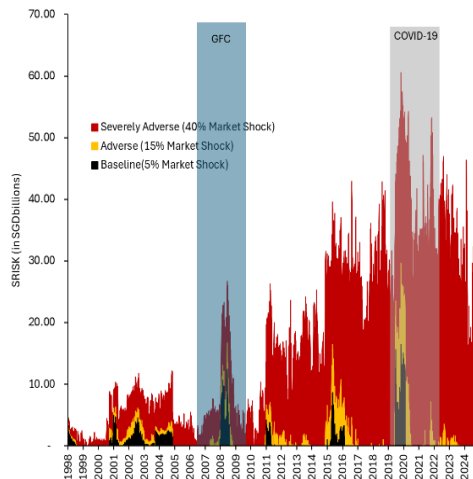
Indonesia



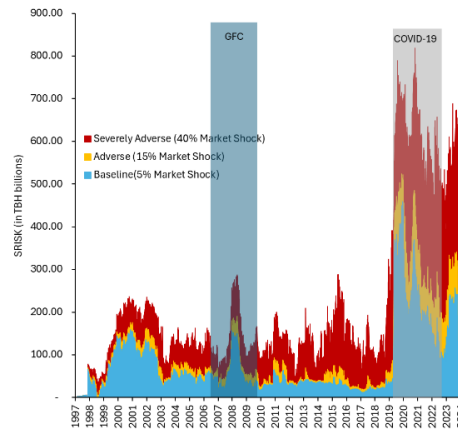
Malaysia



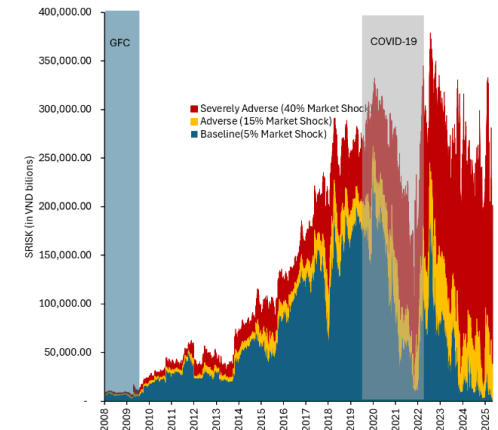
Philippines



Singapore



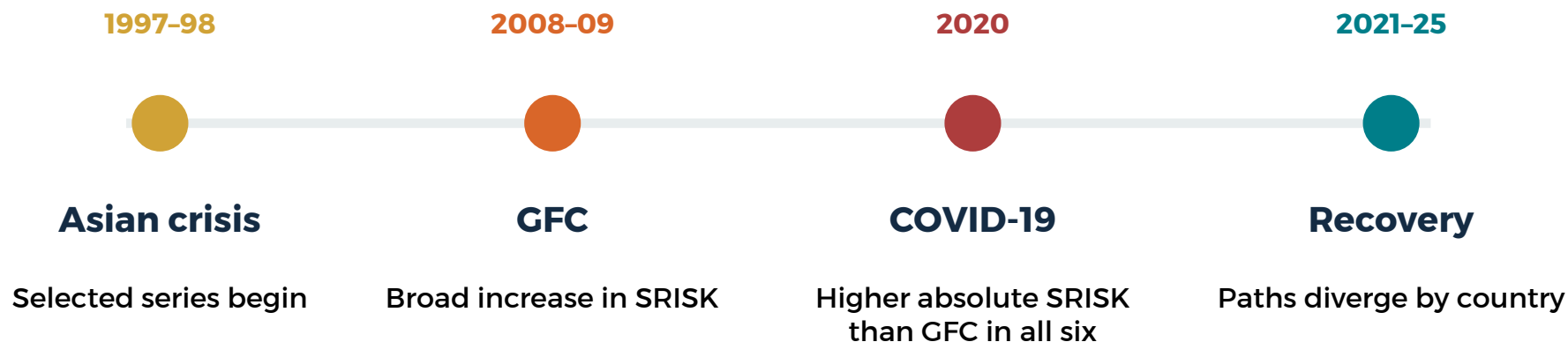
Thailand



Vietnam

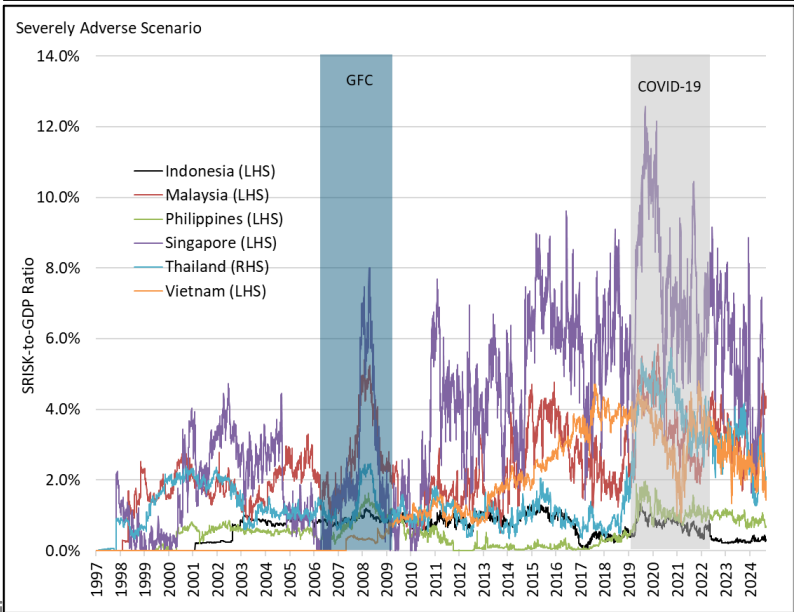
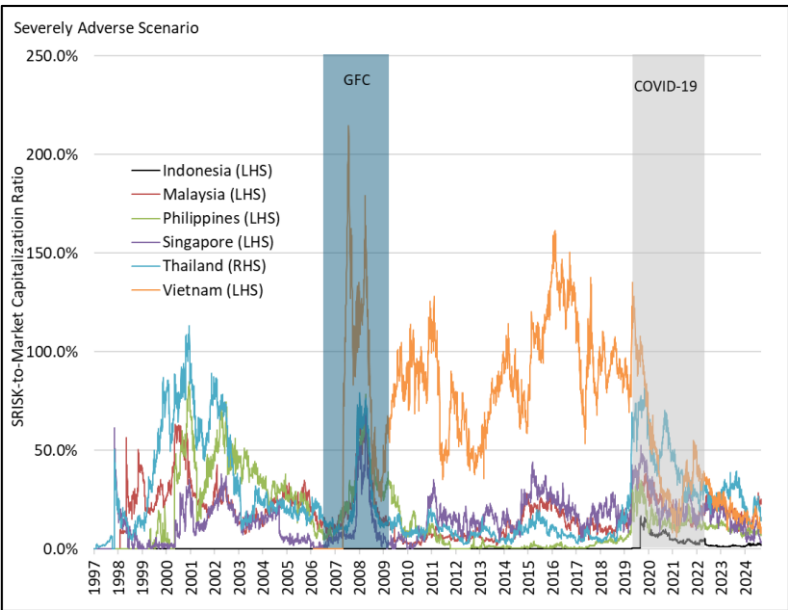
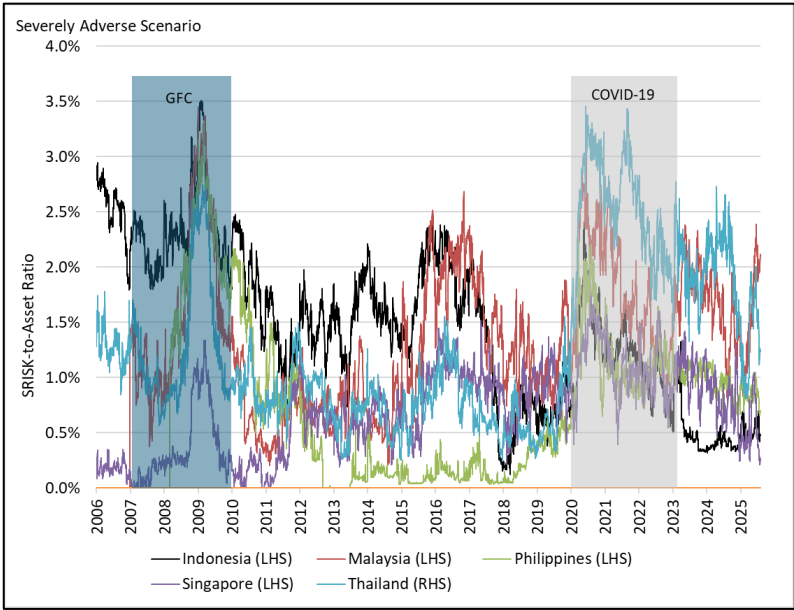
First result: COVID-19 generated the larger shock

COVID-19 produced higher absolute SRISK exposures than the global financial crisis across every economy in the sample.



But absolute exposure is not resilience: denominator growth changes the diagnosis.

Normalized SRISK - Results



Balance-sheet vulnerability remains contained

Severely adverse scenario.

ALL SIX

< 3.5%

SRISK / total assets

Singapore remained below 1.8%;
Thailand has since declined to a
maximum near 2%.

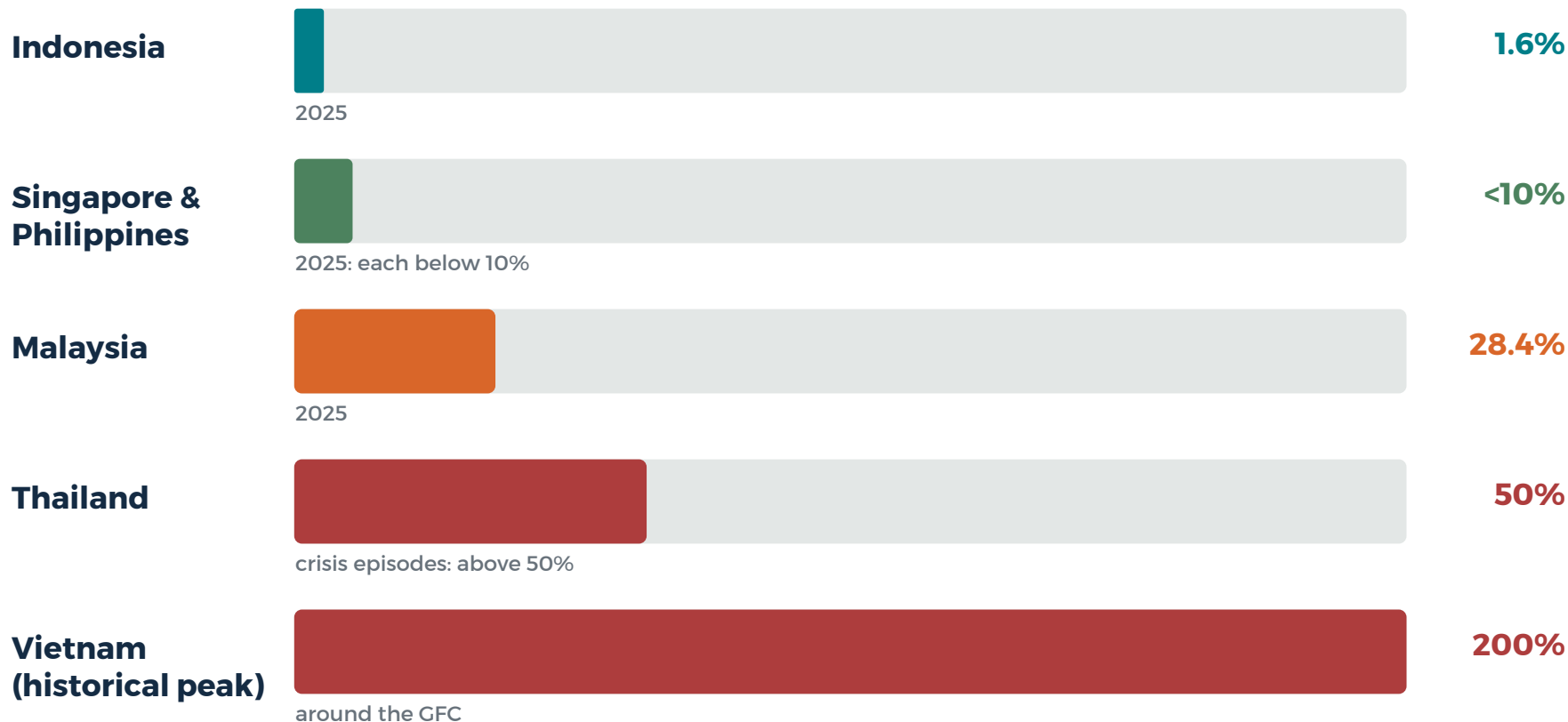
Why this matters

- Asset growth outpaced the increase in expected capital shortfalls.
- Most systems show lower proportional exposure than during earlier crises.
- Low SAR does not eliminate funding, liquidity, or contagion risks.

Interpretation: stronger loss-absorbing capacity at the system balance-sheet level.

Capital-market pressure is the main fault line

SMR shows the widest cross-country dispersion.



Forced issuance can depress prices and amplify the shortfall.

Macroeconomic burdens are manageable—except at hubs

Severely adverse scenario.

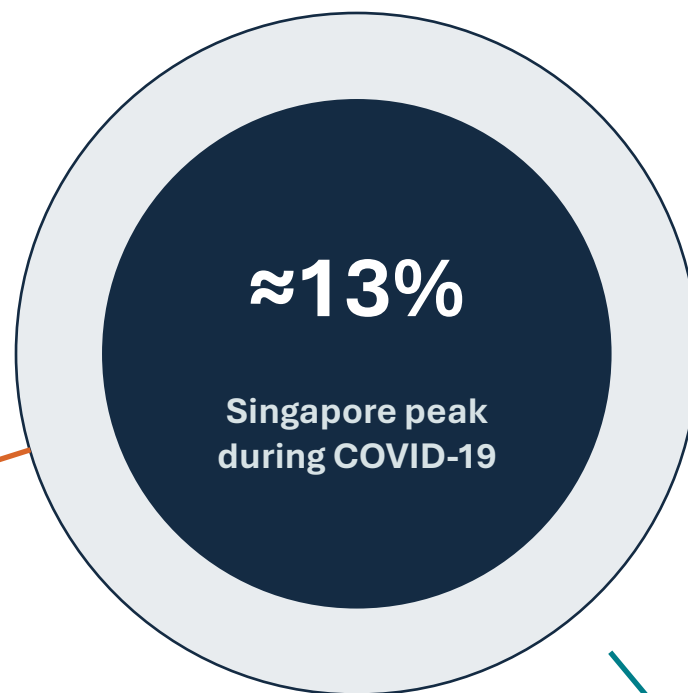
Most ASEAN-6

< 6% of GDP

The Philippines and Indonesia remained below 2% over the sample.

≈8% during the GFC

Financial hubs can transmit shocks even when the regional aggregate appears contained.



1.4–7.2% in 2025 across scenarios

Resilience is multidimensional, not rankable by c

Metric	Regional signal	Countries to watch	Policy reading
SAR	Contained	No broad outlier	Balance sheets can absorb common stress
SMR	Highly dispersed	Malaysia, Thailand, Vietnam	Equity-market depth constrains recapitalization
SGR	Mostly contained	Singapore	Financial hubs need cross-border surveillance

No single country is uniformly “most vulnerable”—the answer depends on the absorption channel.

Policy: calibrate surveillance to system structure

1

Differentiate

Use country-specific thresholds and dashboards rather than a uniform ASEAN trigger.

2

Combine

Add SAR, SMR, and SGR to capital, liquidity, credit-gap, and network indicators.

3

Coordinate

Intensify home-host monitoring for financial hubs and cross-border banking groups.

4

Plan

Pre-position recapitalization, resolution, and market-communication options before stress.

Use normalization as a complement to supervisory stress tests—not a replacement.

Interpret the estimates with four caveats

01

Listed banks only

Private and state-owned institutions may carry additional risk.

02

Fixed 8% capital ratio

A common threshold improves comparability but abstracts from Basel III differences.

03

Market-based signal

SRISK can move with valuations, liquidity, and investor sentiment.

04

Descriptive comparison

Formal causal tests and robustness exercises remain future work.

Next steps Country-specific capital thresholds • alternative shock sizes • rolling windows • determinants of cross-country heterogeneity

THREE TAKEAWAYS

1

Normalize before comparing

Raw shortfalls overstate the vulnerability of larger systems.

2

Watch the recapitalization channel

SMR reveals the region's sharpest cross-country differences.

3

Treat hubs as regional risks

A contained aggregate can mask concentrated transmission nodes.

Thank you

Questions and discussion

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