



Stress Testing in Re/Insurers?

Stress Testing to Improve Insurers' Responses to New and Emerging Risks

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AM Best – An Overview

AM Best credit rating services **assesses the creditworthiness** of and/or reports on over 16,000 insurance companies worldwide. Our credit ratings are independent, indicative and interactive, and summarize our opinion on an insurance company's ability to pay claims, debts and other financial obligations in a timely manner. Our commentary, research and analysis provide additional insight.

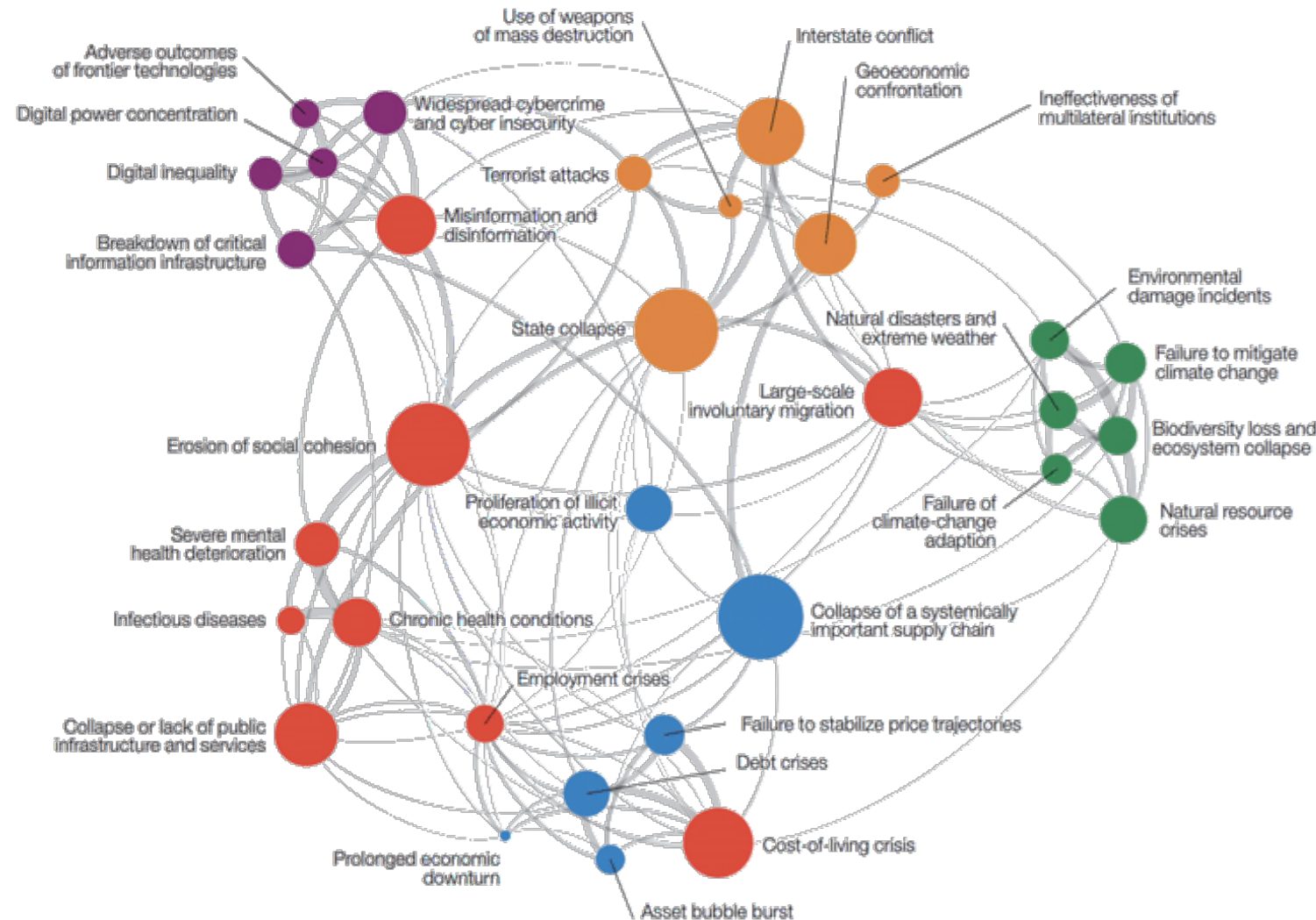
AM Best's **purpose** is to strengthen the financial solvency, stability and sustainability of the insurance industry in support of economic growth and the well-being of all stakeholders.

What is Stress Testing?



- Quantitative & qualitative process
- Use various scenarios
 - Lower probability
 - Higher severity
 - “Normal”
- Measure potential financial impact on:
 - Balance sheet strength
 - Operating performance
 - Cash flow/liquidity
 - Business plans/strategy

Why Should Companies Stress Test? Interconnectivity of Risks



Market environment – increasingly interconnected between risk categories, with a higher degree of contagion

- Economic
- Environmental
- Geopolitical
- Societal
- Technological

Why Should Companies Stress Test?

Determine financial flexibility

Determine robustness of the balance sheet and ability to absorb shocks

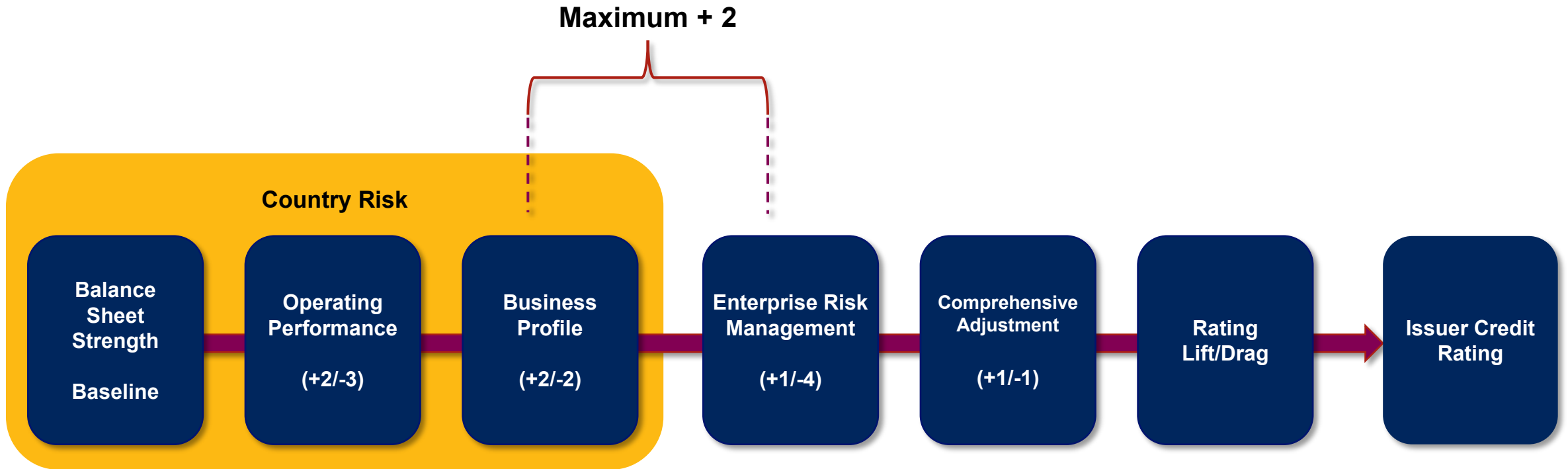
Identify risks/scenarios that may cause insolvency

Determine need for reinsurance

To be proactive about emerging risks and to develop action plans

Regulatory requirements (for some)

Where do we Consider Stress Testing in the Rating Process?



AM Best's Approach to Stress Testing

Threat

- Sudden & severe
- Natural or man-made
- Balance sheet strength
- Ability to pay claims
- Ability to operate

Quantify Impact

- Balance sheet
- Income
- Liquidity
- Business plan

Discuss

- Perils/risks
- Accumulations
- Correlations
- Risk management
- Risk transfer mechanisms

Evaluate

- Appetites/tolerance
- Net exposure
- Multiple events
- Reinsurance structure & dependence
- Liquidity

Natural Catastrophe Stress Testing in Best's Capital Adequacy Ratio (BCAR)

Reduce reported surplus

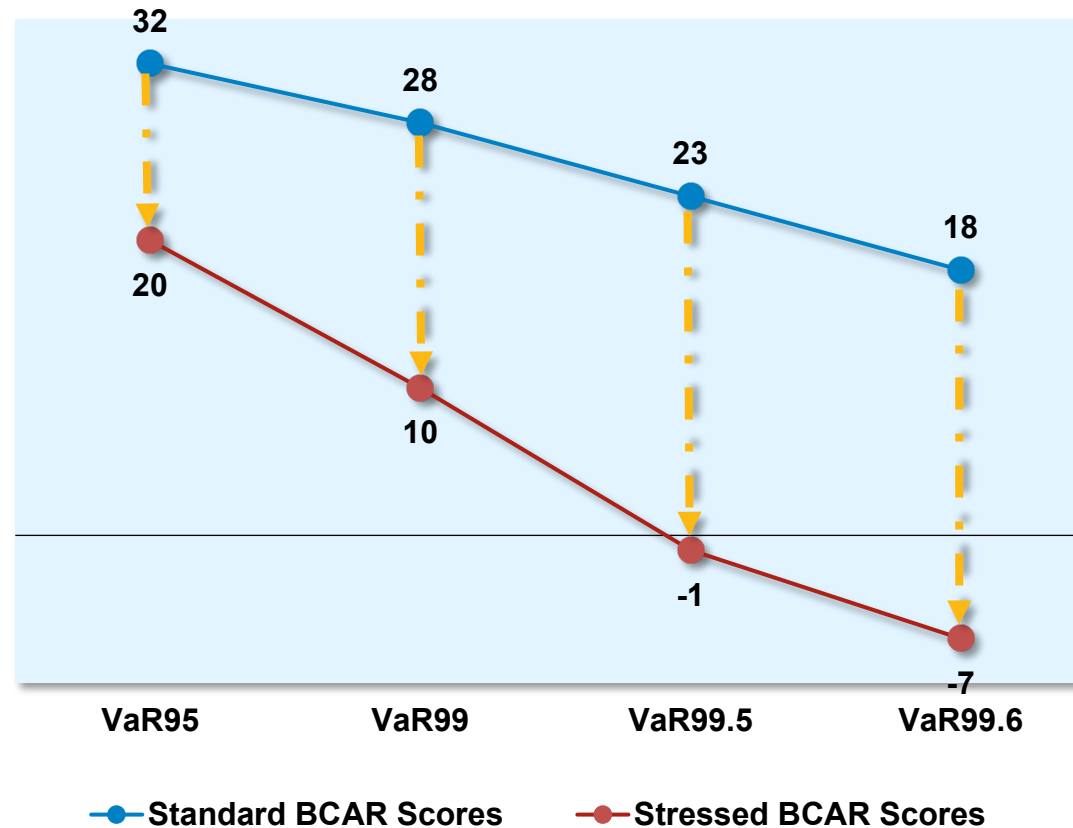
Increase reinsurance recoverables

Increase loss reserves

Consider any changes to the reinsurance structure

Stress Testing in Best's Capital Adequacy Ratio (BCAR)

Rating Unit – Interpretation with Financial Flexibility



Man-Made Catastrophes

Rating

Aggregate exposure

Full limit or modelled PML

Management's view

Historical losses

Examples

Political violence scenarios

Terrorism exposure

Captive / industrial risks

Cyber "cat"

Importance of Reverse Stress Testing

What is Reverse Stress Testing and why is it used?

- Examines scenarios
- Identifies gaps and vulnerabilities
- Helps to develop plans to manage and mitigate key weaknesses
- Complements sensitivity and scenario analyses
- Expected by some regulators


Relevance to rating assessment?

- Explicitly captured in AM Best's ERM framework evaluation
- Helps to understand the tail and how events are managed
- Allows for better risk quantification
- Helps identify risk correlations
- A sign of ERM / market maturity

AM Best's Credit Ratings and Country Risk

AM Best does not impose a sovereign ceiling on its ratings

- AM Best believes:
 - A company can be more financially secure than the government of the country in which it is domiciled
 - Placing a sovereign ceiling on an issuer credit rating would ignore a company's ability to manage country risk



BEST'S COMMENTARY

Our Insight, Your Advantage™

AM Best's Credit Ratings and Country Risk FAQ – Why We Do Not Impose a Sovereign Ceiling on our Ratings

A company can be more financially secure than the government of the country in which it is domiciled. Placing a sovereign ceiling on an issuer credit rating would

AM Best specializes in insurance ratings and recognizes that because every insurer is unique: the impact of the overall operating environment on companies may differ, as well as the options for mitigating that impact.

AM Best does not apply a sovereign ceiling on the insurance companies it rates. Placing a sovereign ceiling on an insurer issuer credit rating (ICR) would ignore a company's ability to manage country risk by avoiding risk or by hedging, or by accepting what cannot be controlled and using counter measures such as additional capital, strong underwriting performance, or diversification.

Nevertheless, country risk is factored into all of AM Best's ICRs, during the review of balance sheet strength, operating performance, and business profile that forms part of AM Best's rating (Exhibit 1).

AM Best-Rated Insurers (Africa)

Insurer Credit Ratings (ICR) and Financial Strength Ratings (FSR)

Company	Domicile	ICR	FSR
African Reinsurance Corp	Nigeria	a	A
AXA Mansard Insurance	Nigeria	bbb-	B+
Compagnie Commune de Réassurance des Etats Membres de la CIMA	Togo	bbb-	B+
Continental Reinsurance	Nigeria	bbb-	B+
East Africa Reinsurance	Kenya	bb+	B
Egyptian Takaful Properties and Liabilities Insurance (Egyptian JSC)	Egypt	bb-	B-
Ethiopian Reinsurance S.C.	Ethiopia	bb	B
Fidelidade Moçambique - Companhia de Seguros, S.A.	Mozambique	bb	B
Ghana Reinsurance	Ghana	bb-	B-

Company	Domicile	ICR	FSR
GIG Insurance - Egypt S.A.E.	Egypt	bbb+	B++
Kenya Reinsurance Corp	Kenya	bb+	B
Misr Insurance	Egypt	bbb	B++
Misr Life Insurance	Egypt	bbb	B++
Orient Takaful Insurance (S.A.E.)	Egypt	a+	A
Suez Canal Insurance	Egypt	bb-	B-
Tanzania Reinsurance	Tanzania, United Republic Of	bb+	B
WAICA Reinsurance Corp	Sierra Leone	bb+	B
ZEP-RE (PTA Reinsurance)	Kenya	bbb+	B++

Examples of Stress Tests – Financial Crash/Sovereign Default

Purpose

To assess the sensitivity of a company's BCAR to a potential sovereign default or major financial crash

Local currency sovereign debt is not risk free – Governments cannot always simply print money without other knock-on consequences

Example of adjustments that may be made in BCAR

- All investments moved to CIC V
- Sovereign bonds lowered to “CCC” or “D”; all other bonds lowered one rating level
- Sovereign bonds, equities, real estate and cash/deposits receive a haircut to market value

Default Stress Test – Rating Committee Presentation Examples

Company A
bbb-/Sta
b+/Neg

Company B
bb+/Sta
b+/Neg

Company C
bb-/Sta
b+/Neg

Company ICR Sovereign (composite)	BCAR @99.6 (%)	BCAR Assessment
2022 YE Standard BCAR	36	Strongest
Investment to CIC V	36	Strongest
Sovereign Bonds to 'cc'	17	Very Strong
Sovereign Bonds Haircut 40%	15	Very Strong
Equities & Real Estate Haircut 20%	35	Strongest
Cash & Short-Term Haircuts 5%	33	Strongest

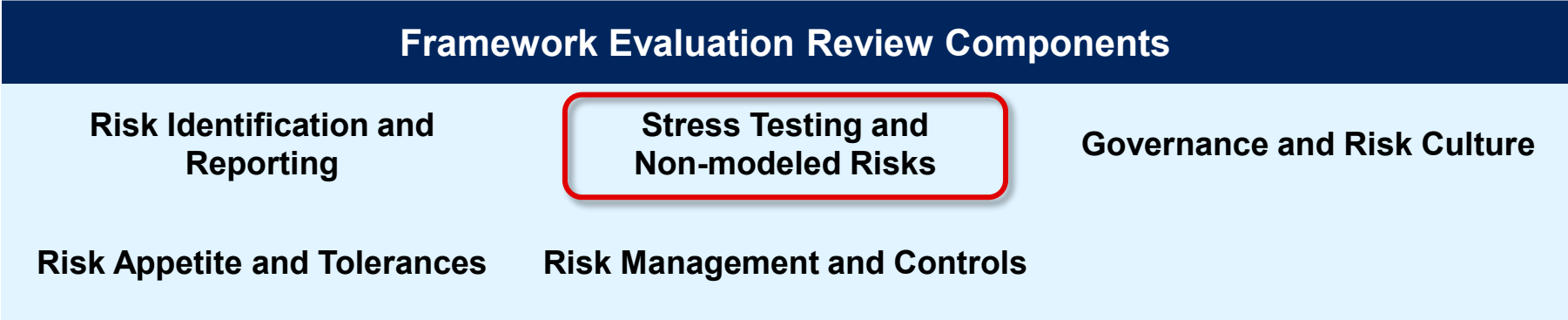
BCAR @99.6 (%)	BCAR Assessment
47	Strongest
47	Strongest
11	Strong
11	Strong
46	Strongest
46	Strongest

BCAR @99.6 (%)	BCAR Assessment
19	Very Strong
19	Very Strong
-25	Very Weak
-63	Very Weak
-14	Weak
18	Very Strong

	VAR 95	VAR 99	VAR 99.5	VAR 99.6	VAR 95	VAR 99	VAR 99.5	VAR 99.6	VAR 95	VAR 99	VAR 99.5	VAR 99.6
Total Impact (%)	27	14	10	10	10	6	4	4	-84	-92	-95	-96

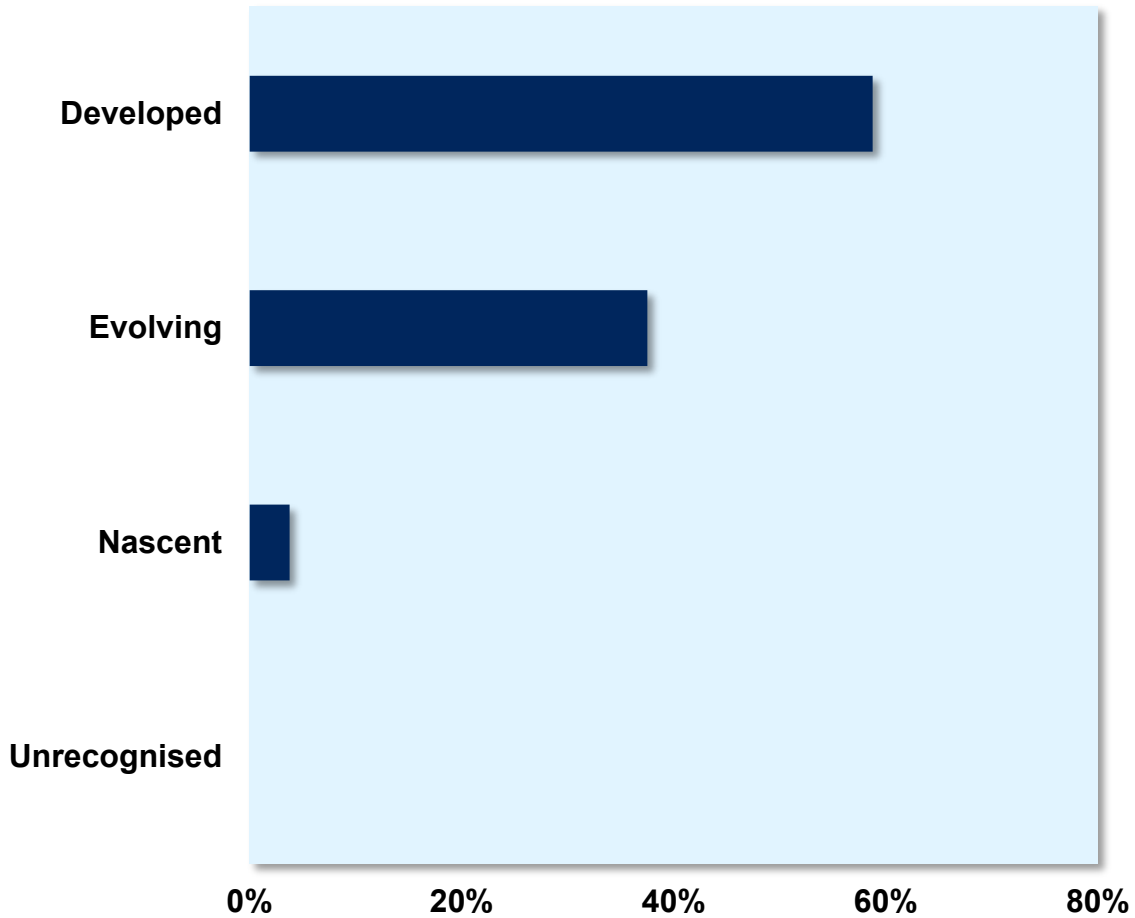


Best's Credit Rating Methodology (BCRM) – Enterprise Risk Management

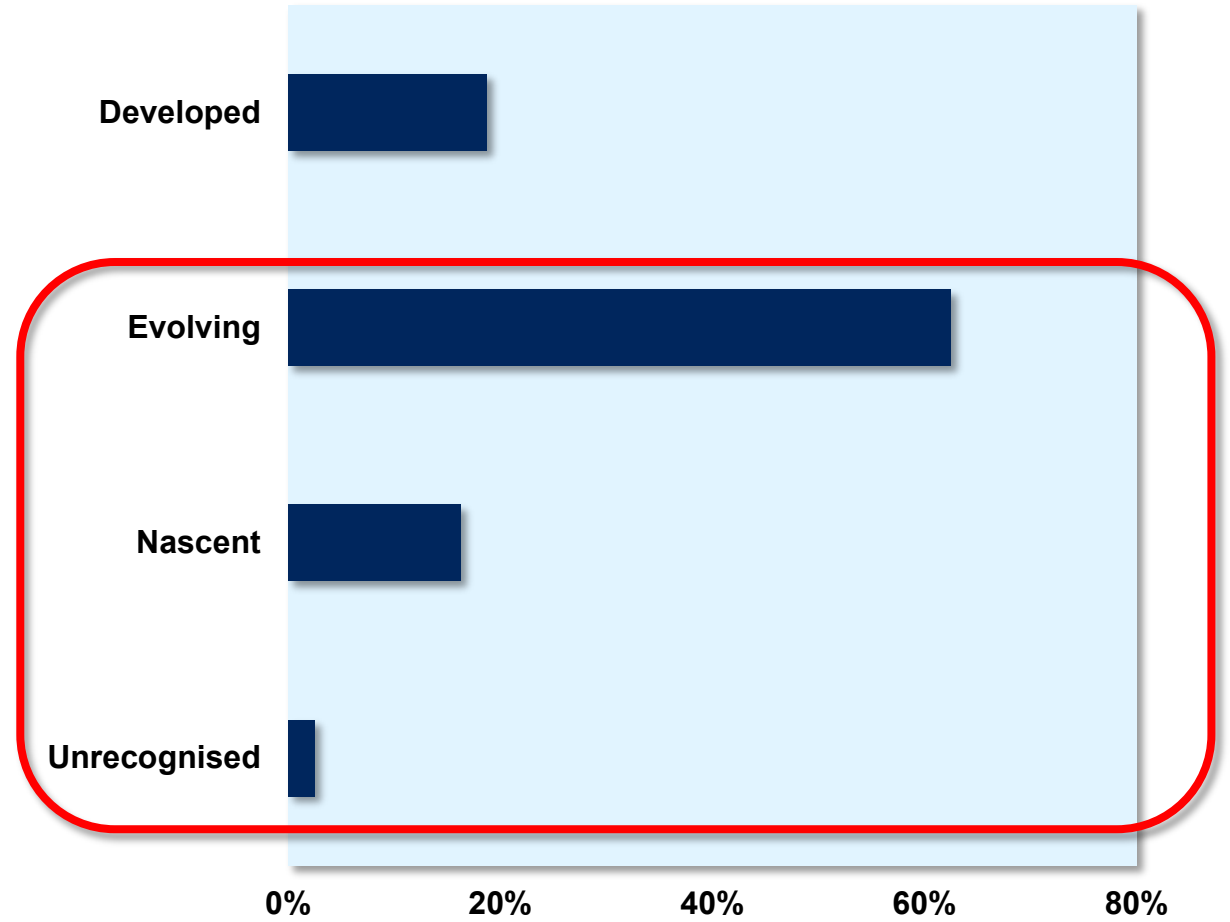


Stress Testing in the ERM Framework – Middle East & Africa

ERM Framework – Risk appetite and tolerances



ERM Framework – Stress testing and non-modelled risks



Practices of Companies Where Stress Testing is Deemed to be Embedded

Stress scenarios proven, use long periods, include multiple events and various crises

Regular use of models

Routine scenario testing

Risk tolerances set and closely monitored

Integrated for verification of capital

Conducted at company and group levels

Reverse stress tests identify scenarios where losses exceed capital or have a significant impact on financial soundness

Reported at management meetings and to board of directors

Key Takeaways

Analysts –

Consider which stresses are appropriate to perform in BCAR

**Natural Catastrophe Investment Stress
Impact of Regulatory Changes**

**Casualty Catastrophe
Sovereign Stress
Dependence on Counterparties**

**Terrorism
Liquidity Stress
Inadequate Reserving
Cyber**

**Single Large Losses
Pandemic
Accumulation of Net Exposures**

Companies –

- **Should perform relevant stress testing and explain the scenarios and their impact on operations**
- **Should look “outside the box” to assess emerging risks and any potential correlations**
- **Important to get a view on reverse stress testing**
- **Understand contingency plans and protocols to restore capital**

Q&A

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