FUNENSEG – Escola Nacional de Seguros

A. M. Best Company Overview & The Rating Process

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Disclaimer

Analytical Discussion Agenda

- A.M. Best’s Ratings Defined
- The Rating Process & Rating Key Drivers
- Country Risk Discussion
- Best’s Capital Adequacy Ratio (BCAR)
- New Developments at A.M. Best
- Q&A

A.M. Best Ratings Defined

What We Rate

A.M. Best's primary focus is the insurance industry and has ratings on:

- Insurance companies
- Health maintenance organizations (HMOs)
- Holding companies of these organizations
- Debt and debt-like instruments issued by these organizations

A.M. Best Credit Ratings

Best's Issuer Credit Rating (ICR)

- An independent opinion of an entity's ability to meet its ongoing financial obligations and can be issued on either a long-or short-term basis
  - A long-term ICR is an opinion of an entity's ability to meet its ongoing senior financial obligations
  - A short-term ICR is an opinion of an entity's ability to meet its ongoing financial obligations with original maturities generally less than one year

Best's Financial Strength Rating (FSR)

- An independent opinion of an insurer's financial strength and ability to meet its on-going insurance policy and contract obligations

Other Types of A.M. Best Ratings

Best's Issue Rating (IR)

- An independent opinion of credit quality assigned to issues that gauges the ability to meet the terms of the obligation and can be issued on a long- or short-term basis

Best's National Scale Rating (NSR)

- A relative measure of creditworthiness in a specific local jurisdiction that is issued on a long-term basis and derived exclusively by mapping the NSR from a corresponding global Issuer Credit Rating (ICR) using a transition chart

A.M. Best Rating Scales

FSR	Long-Term ICR
A++	aaa aa+
A+	aa aa-
A	a+ a
A-	a-
B++	bbb+ bbb
B+	bbb-

FSR	Long-Term ICR
B	bb+ bb
B-	bb-
C++	b+ b
C+	b-
C	ccc+ ccc
C-	ccc- cc
D	c
E	e/d
F	f/d

Note: e/E, f/F and d are non-rating designation status. e/E and f/F are used for insurers, while d is used for non-insurers and securities.

National Scale Ratings
A.M. Best (Mexico Only to Date)

ICR	NSR/Mexico
a	aaa.MX
a-	aa+.MX aa.MX
bbb+	aa-.MX
bbb	a+.MX a.MX
bbb-	a-.MX

ICR	NSR/Mexico
bb+	bbb+.MX bbb.MX
bb	bbb-.MX
bb-	bb+
b+	bb.MX
b	bb-.MX b+.MX
b-	b.MX
ccc+	b-.MX ccc+.MX
ccc	ccc.MX
ccc-	ccc-.MX
cc	cc.MX
c	c.MX

ICR = Issuer Credit Rating
NSR = National Scale Rating

A.M. Best Rating Indicators

- Rating outlooks
  - Assigned with every rating
  - Indication of potential direction over an intermediate term, generally defined as 12 to 36 months

Positive	Stable	Negative

- Under review
  - Typically associated with a pending transaction or other significant event that causes A.M. Best to re-evaluate rating
  - Short-term in nature… typically, a rating is under review no longer than 6 months

Positive	Developing	Negative

Rating Events

- **Scheduled Annual Review**
  - Rating action following annual meeting and review
- **Event Driven**
  - Rating action outside the scheduled cycle
  - Reflects impact of a material financial or strategic event, or emerging trend
- **Debt Only**
  - Rating action (Debt rating only) outside the annual cycle
  - New security is issued or existing security withdrawn

Ratings are Prospective

- Annual impairment studies indicate ratings performance
- Impairment rates increase with time & rating degradation
- A superior rated (A++ or A+) insurer has a one-year impairment rate of about 0.06%
- At the next lower rating level (A and A-) this rate increases by nearly 3.5 times
- Vulnerable category has a default rate of more than 15 times that of a secure rating

Historical Impairment Probabilities

Class of Credit Ratings: Insurance Companies (Financial Strength Ratings) 3-Year Ratings Transition			
FSR	Impaired	Total	Impairment Rate
A++	0	107	0.00%
A+	0	544	0.00%
A	0	1055	0.00%
A-	2	899	0.22%
B++	3	290	1.03%
B+	0	183	0.00%
B	1	68	1.47%
B-	4	33	12.12%
C++	2	11	18.18%
C+	2	5	40.00%
C	0	1	0.00%
C-	0	1	0.00%
D	1	1	100.00%
Total:	**15**	**3198**	**0.47%**

The Ratings Process

A.M. Best's Interactive Credit Rating Process

- Provide an opinion of the rated entity's ability to meet its senior financial obligations
- Analyze a company's balance sheet strength, operating performance and business profile
- Analysis should be on both a top-down and bottom-up basis
- Incorporate a host of quantitative and qualitative measures

A.M. Best Rating Process

Company Rating Meeting Presentation | Competitive Analysis Report

BCAR | Asset Quality | STAT/GAAP Statements | SRQ | MD&A | Management Team

Cash Flow | Asset Liquidity | QAR | Company Forecasts | Lines of Business

Balance Sheet Strength

- Financial Lev/Flex
- ALM
- Loss Reserve Model / LRD
- Actuarial Reports

Operating Performance

Business Profile

- Growth
- Geographic Spread
- Distribution Channel(s)
- Event Risk
- Reins Program
- Risk Appetite, Tolerance, etc.
- Risk Impact Worksheet
- ICM
- Lift/Drag from Affiliates

Enterprise Risk Management

Country Risk

A.M. BEST Rating

Balance Sheet Strength

Risk-Adjusted Capitalization

Capital Structure	Underwriting Leverage	Asset Allocation	Liquidity	Soundness of Reinsurance	Reserve Adequacy

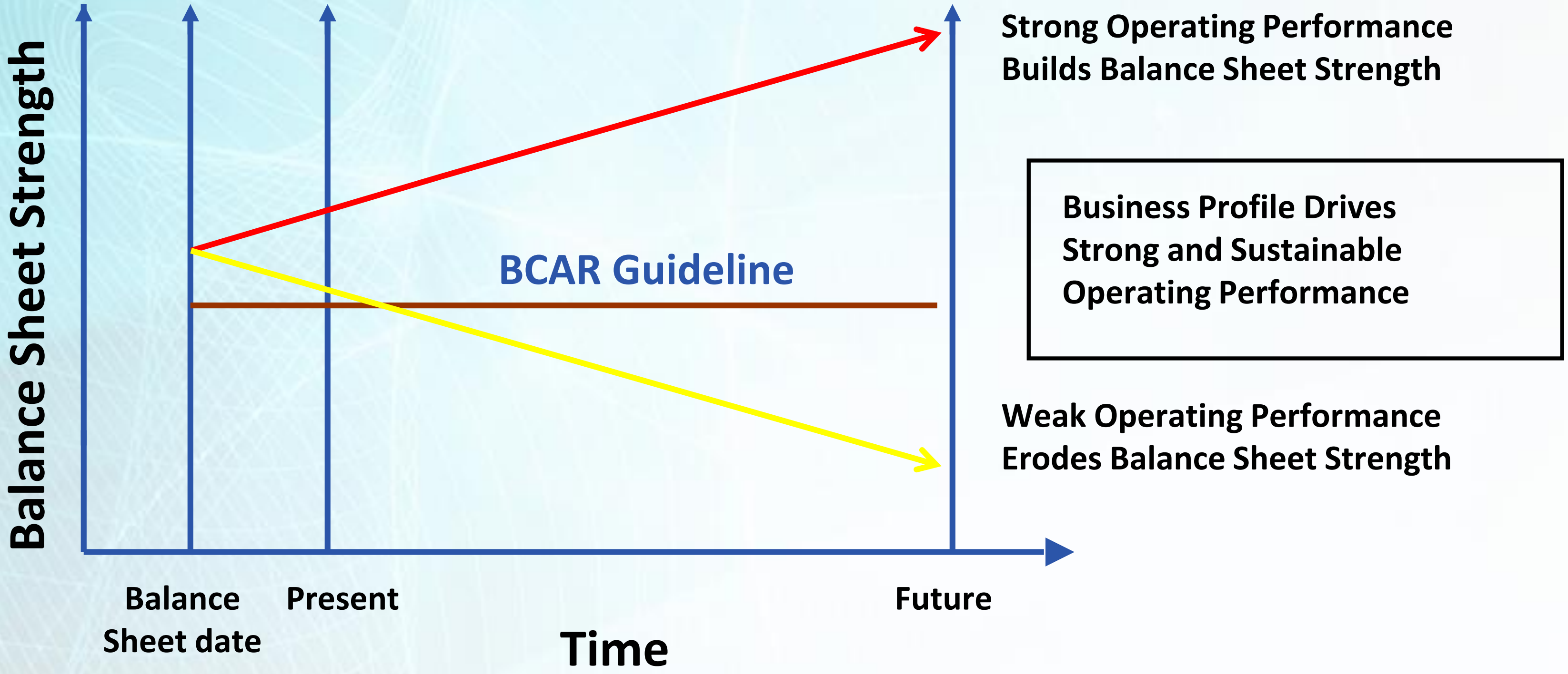
Best's Capital Model (BCAR)

- Standard for evaluating capitalization
- Model evolves over time
- Dynamic factor-based model
- Minimum capital level guidelines
- Trends are key

Performance & Profile Drive Balance Sheet Strength

Operating Performance and Business Profile

Leading Indicators of the Future Balance Sheet



Operating Company Analysis

Underwriting Analysis

- What are the underwriting trends?
- Expense & Loss Ratio drivers
- What stage of the underwriting cycle
- Accident yr vs. calendar yr results
- By Line of Business
- Impact of catastrophe exposure
- Favorable or under favorable reserve development

Investment Income

- Net Investment Income ratio
- Return on Invested Assets
- Alternative Asset Strategies
- Realized and Unrealized Gains or Losses

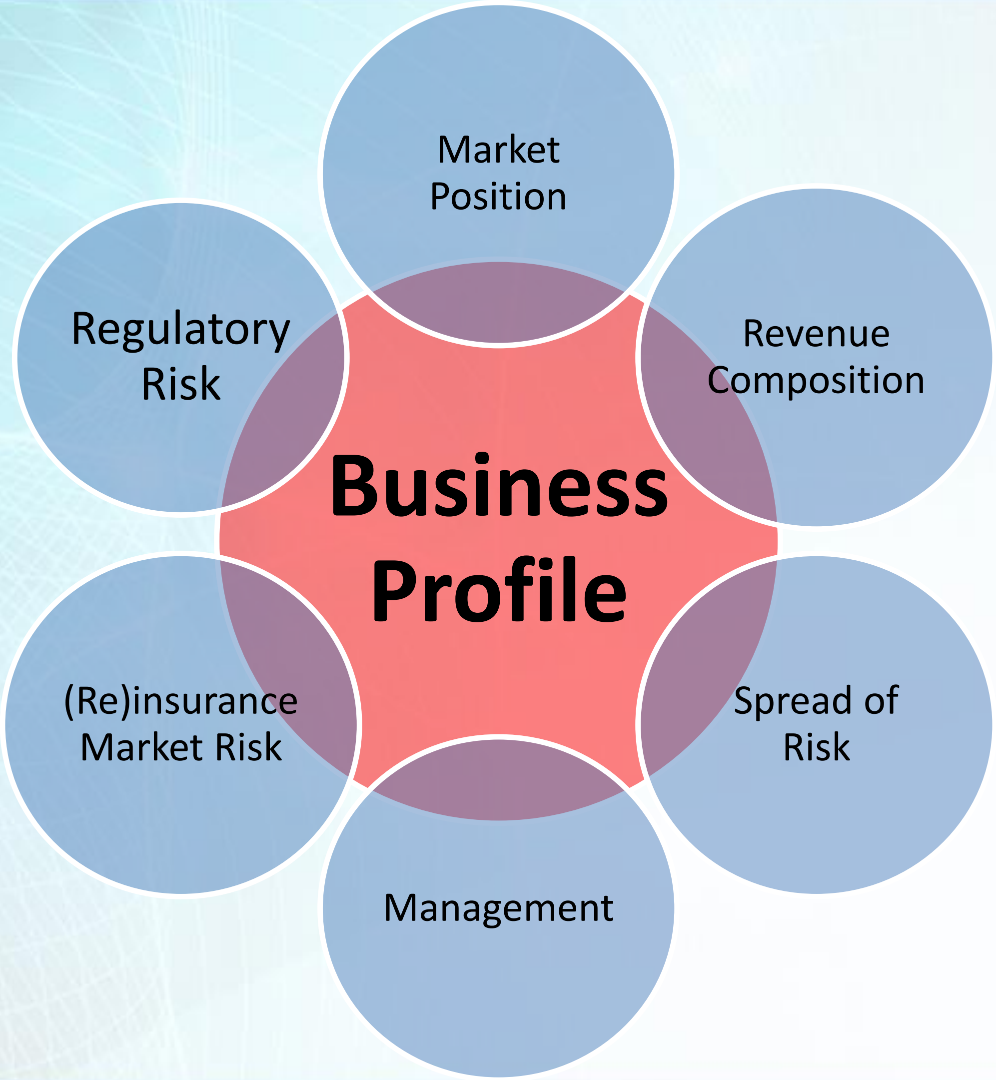
Overall Earnings

- Return on Equity
- Operating ratio
- Surplus growth
- Return on Revenue
- Other Income
  - Fee income
  - Non-insurance income

Operating Company Analysis

Operating Profitability Helps to Drive Capital Strength	Analysis focuses on stability and sustainability of earnings sources
	Areas analyzed include underwriting, investments, capital gains/losses and total operating earnings
	Length and nature of insurance liability risks and how these elements relate to strategy

Business Profile



Business Profile

Distribution Platforms

- Primary & Reinsurance
- Broker & Agents & Direct

Divisification

- By Line of Business
- Geographic
- Earnings composition

Competitive Position

- Ability to generate business
- Ability to enter new lines of business or markets
- Niche & Specialized player

Management Capabilities

- Does Management have the experience and depth to navigate different cycles and regulatory environment
- Can the strategy be executed

Enterprise Risk Management

Enterprise Risk Management can provide…

- Value to the company
- Financial security to the organization

Risk management can be found in a company's…

- Strategic decision making process
- Financial management and control practices

Identify Risks → Quantify Risks → Manage Risks

Enterprise Risk Management

ERM process

- Insurers that create a structured, integrated risk framework can:
  - Increase the value of the firm and
  - Provide financial security to the organization
- What is A.M. Best looking for with your ERM process?
  - Stated risk tolerance
  - Delineated risk appetite
  - Established risk limits acceptable to risk appetite / tolerance per exposure
  - Fully understand risks undertaken

Risk Management

A company's risk management capability needs to meet its risk profile

Risk Profile	Risk Management Capability
HIGH RISK	Superior
MODERATE RISK	Strong
LOW RISK MINIMAL RISK	Good Weak

Risk Management Impact

A company's risk management capability needs to meet its risk profile

Risk Profile

HIGH RISK

MODERATE RISK

LOW RISK

MINIMAL RISK

Negative Rating Factor/Potentially Higher Capital Requirements

Risk Management Capability

Superior

Strong

Good

Weak

Risk Management Impact

A company's risk management capability needs to meet its risk profile

Risk Profile

HIGH RISK

MODERATE RISK

LOW RISK

MINIMAL RISK

Positive Rating Factor/Potentially Lower Capital Requirements

Risk Management Capability

Superior

Strong

Good

Weak

Risk Impact Worksheet

- A.M. Best analysts use risk impact report to summarize rated insurer's risk management profile & risk management capabilities
- Categories :
  1. Product & Underwriting risk
  2. Reserving risk
  3. Concentration risk
  4. Reinsurance risk
  5. Financial flexibility
  6. Investment risk
  7. Macroeconomic/Outside influences
  8. Management
  9. Operational risk
  10. Risk appetite/Stress testing
  11. Summary

Risk Impact Report

Risk Profile for

Company: XYZ Ins Co Ltd

Risk Profile Details

Risk Impact Criteria										
Risk Criteria			Low			Moderate			High	
Risk Category	**Risk Type**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Product / Underwriting	Profile					•	•			
	Mgmt Capability					•	•			
Reserving	Profile				•					
	Mgmt Capability				•					
Concentration	Profile						•	•		
	Mgmt Capability						•	•		
Reinsurance	Profile					•	•			
	Mgmt Capability					•	•			
Financial Flexibility	Profile			•	•	•	•	•		
	Mgmt Capability			•	•	•	•	•		
Investments	Profile					•	•			
	Mgmt Capability					•	•			
Legislative / Regulatory / Judical / Economic	Profile					•	•			
	Mgmt Capability					•	•			
Management	Profile			•	•	•	•			
	Mgmt Capability			•	•	•	•			
Operational	Profile					•	•			
	Mgmt Capability					•	•			
Risk Appetite / Stress Testing	Profile				•	•				
	Mgmt Capability				•	•				
Summary	Profile					•				
	Mgmt Capability					•				

Risk Profile Key Values: • 1 - 3 Low • 4 - 6 Moderate • 7 - 9 High Colors: • Positive • Negative

ERM: A Story of Two Companies

	Company A	Company B	"Company A" has stronger ERM
Risk culture: role and responsibilities	Establishes a separate, highly qualified department, led by chief risk officer (CRO) who is a member of senior management	Risk management activities are embedded within various business lines	CRO takes a holistic view of risks and coordinate risk management activities across the enterprise
Risk culture: appetite or tolerance	Establishes risk tolerance or appetite in relation to earnings and capital on corporate level and by major LOB	Not defined	Clear risk objectives are linked to business strategies and key stakeholders' expectations
Risk identification	Identifies and manages risk among (and within) the five categories of risk – underwriting, market, credit, operational, strategic	Different departments conduct risk management process separately	Provide holistic view of risk profile and potential impact of risk correlations
Risk identification	Identifies and manages operational risks as ongoing process	Operational risks are not captured	
Risk assessment	Performs "what if" scenario testing of unusual events (e.g. interest rate shock, stock market crash)	Financial planning process does not include stress testing	Scenario testing allows quantification of the impact of extreme events

Questions?

The Interactive Components of the Rating Process

The Analyst's Role: Extensive and Exhaustive

Before Company Meeting

- AMB point of contact
- Set up annual review meeting
- Thorough study of public data
- Review of internal A.M. Best data
  - Review prior rating committee presentation and notes
  - Review all financial information
  - Initial assessment of strengths and weaknesses
- Agenda and guidance
  - Discuss thoughts with team leader
- Meeting package reviewed if received in advance

The Management Meeting Agenda

- CEO Strategic Overview
- Corporate Governance
- Organizational Structure
- Capital Structure
- Underwriting
- Claims & Loss Reserving
- Reinsurance Programs
- Investments
- Financial Review & Planning
- Enterprise Risk Management
- Marketing & Business Production

The Analyst's Role (cont'd)

At The Meeting

- Assimilate and clarify information
- Discussion and Q & A
- Wrap up
- Additional information requests
- Pressure points
- Advance notice of possible rating action, outlook change, or affirmation
- Initial timeline for rating conclusion
- Feedback on presentation materials

Preparing for a Rating Meeting: Company Perspective

What A.M. Best expects of the company?

- Prepare for an interactive dialogue
- Balanced and transparent discussion of key strategies and their impact on the company’s financial
- Highlight any concerns and challenges:
  - Balance sheet/operating performance/business profile
  - Discussion of any significant transactions, other material events

Preparing for a Rating Meeting: Company Perspective

What should you expect of A.M. Best?

- Industry perspective and feedback
  - Regulation, peers, emerging issues, etc.
- Summary of issues and impact on ratings
  - Quarterly observations, financial trends, etc.
- Feedback on presentation materials
  - Acceptable or needs improvement/deficiency
- May need follow-up call to resolve any open items

Ratings Process

After the Meeting – Analyst's Perspective

- Follow-up information / meeting
- Discuss timelines
- Complete analysis
- Top down – Bottom up approach
- Peer analysis
- Stress tests
- Communicate rating and "key drivers"
- Annual report update/press release

Ratings Process

The Rating Committee

- Minimum of six members
- Committee chair
  - Chair breaks a tie
  - Accepts or denies an appeal
  - Can send analyst back for additional information
- Analyst presents, makes a rating recommendation and votes
- Key positives and negatives summarized
- Stand-alone assessment/published rating
- Committee vote

Ongoing Dialogue with Companies

- Dialogue should be on-going
- No surprises – on either side!
- Keep your analytical team updated on any material decline in capital, operating results or potential M&A
- Company should be aware of potential rating outcomes
- Discuss methodologies to gain insight

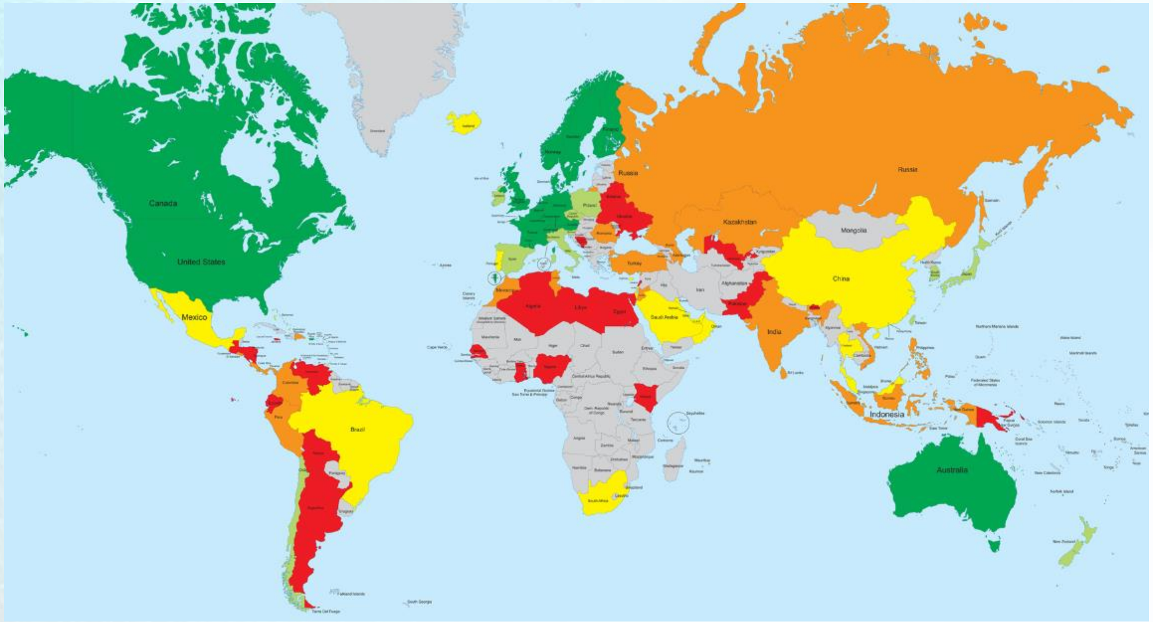
Questions?

COUNTRY RISK in A.M. Best Ratings

Country Risk

How does A.M. Best define Country Risk?

Country Risk is defined as the risk that country specific factors could adversely affect an insurer's ability to pay its financial obligations.



Country Risk vs. Sovereign Risk

Country Risk - The risk that country-specific factors could adversely affect an insurer's ability to meet its financial obligations

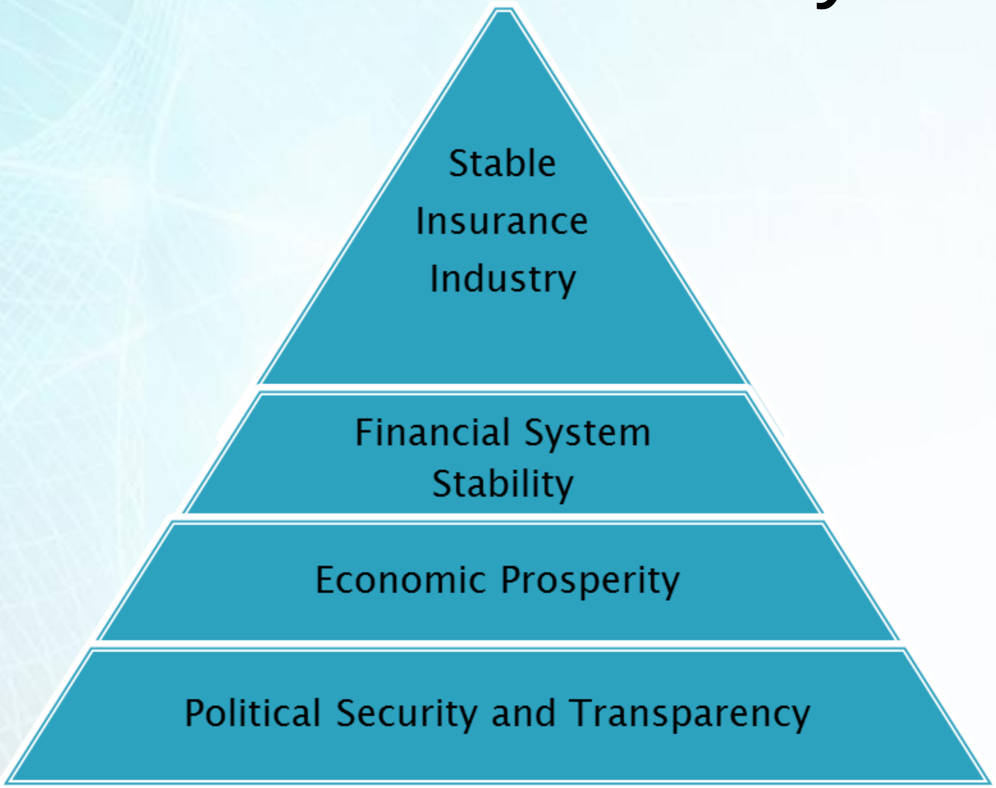
Sovereign Risk - The risk that a sovereign government does not pay back its debts on time and in their entirety

Country Risk Impact

Poor asset choices	Challenges unique to the country's operating environment and must be explicitly addressed
"Burdensome" regulation	
Inefficient legal system	
Poor business infrastructure	
Inadequate data	
High vulnerability to financial crisis	High risk to financial strength without extraordinary preparation (capital)
Inadequate regulation	
Opacity in legal system	
Societal instability & Violence	Potential to be completely destabilizing for any company *(Most companies would be in the vulnerable range)*
Government corruption	
Weak economic structure	

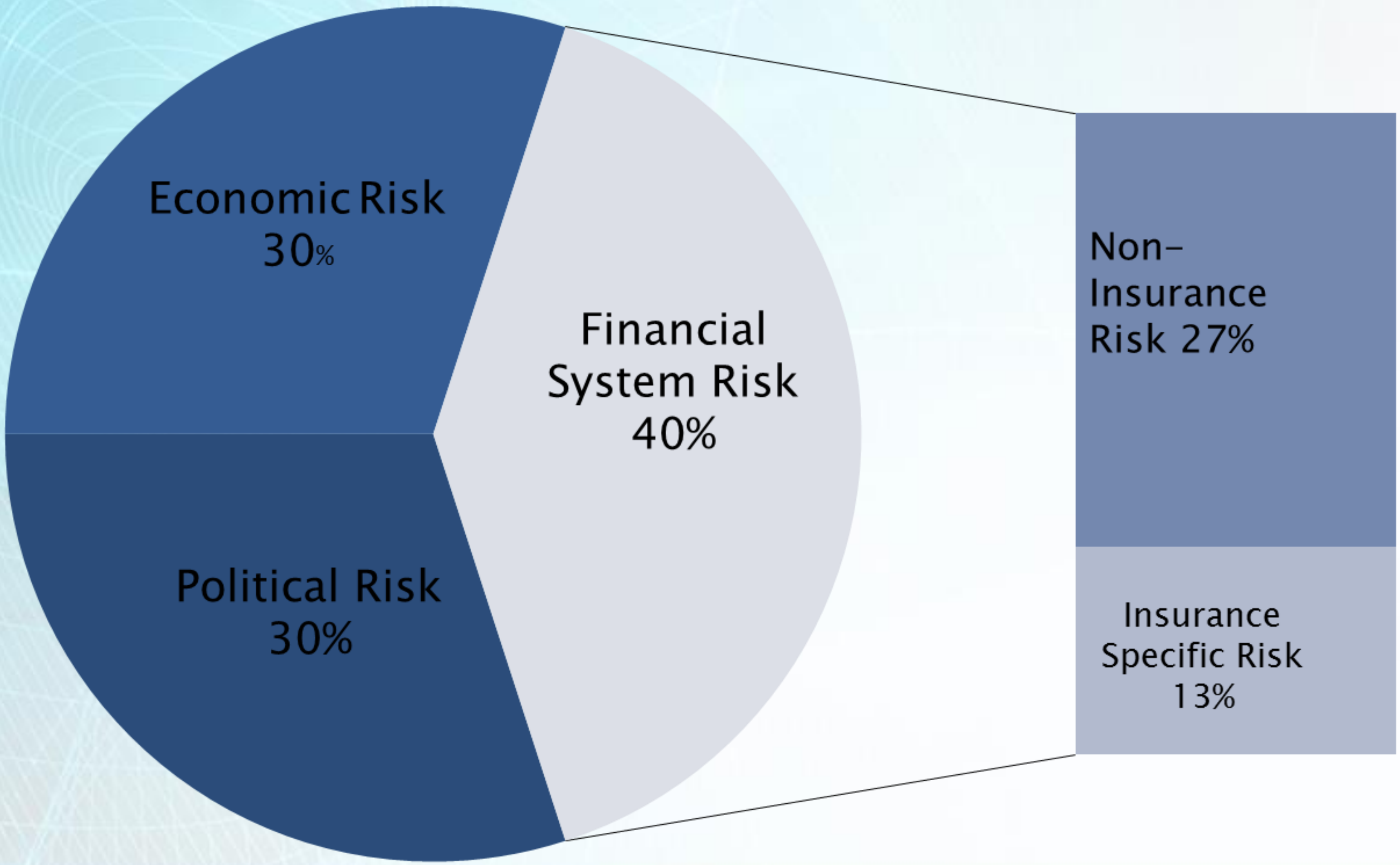
Country Risk

The Development of an Insurance Industry



Country Risk

What are the key components of country risk?



Country Risk

Country Risk Compared to Sovereign Risk

Sovereign Risk

- Measures an individual country's ability to service their debts
- Does not address the underlying operating environment within a country

Country Risk

- Measures the overall operating environment and the ability of a company to effectively and efficiently operate within that framework
- Encompasses economic, political and financial system risks which creates a more accurate backdrop for operations

Country Risk

A County’s Sovereign Rating is Not a Cap

A.M. Best’s Country Risk Methodology clearly indicates that a country’s sovereign rating does not serve as a cap for a company’s financial strength rating as companies can mitigate country specific risk

A Sovereign Cap Ignores a Company’s Ability to Manage Country Risk

Country Risk – Government Response to Default

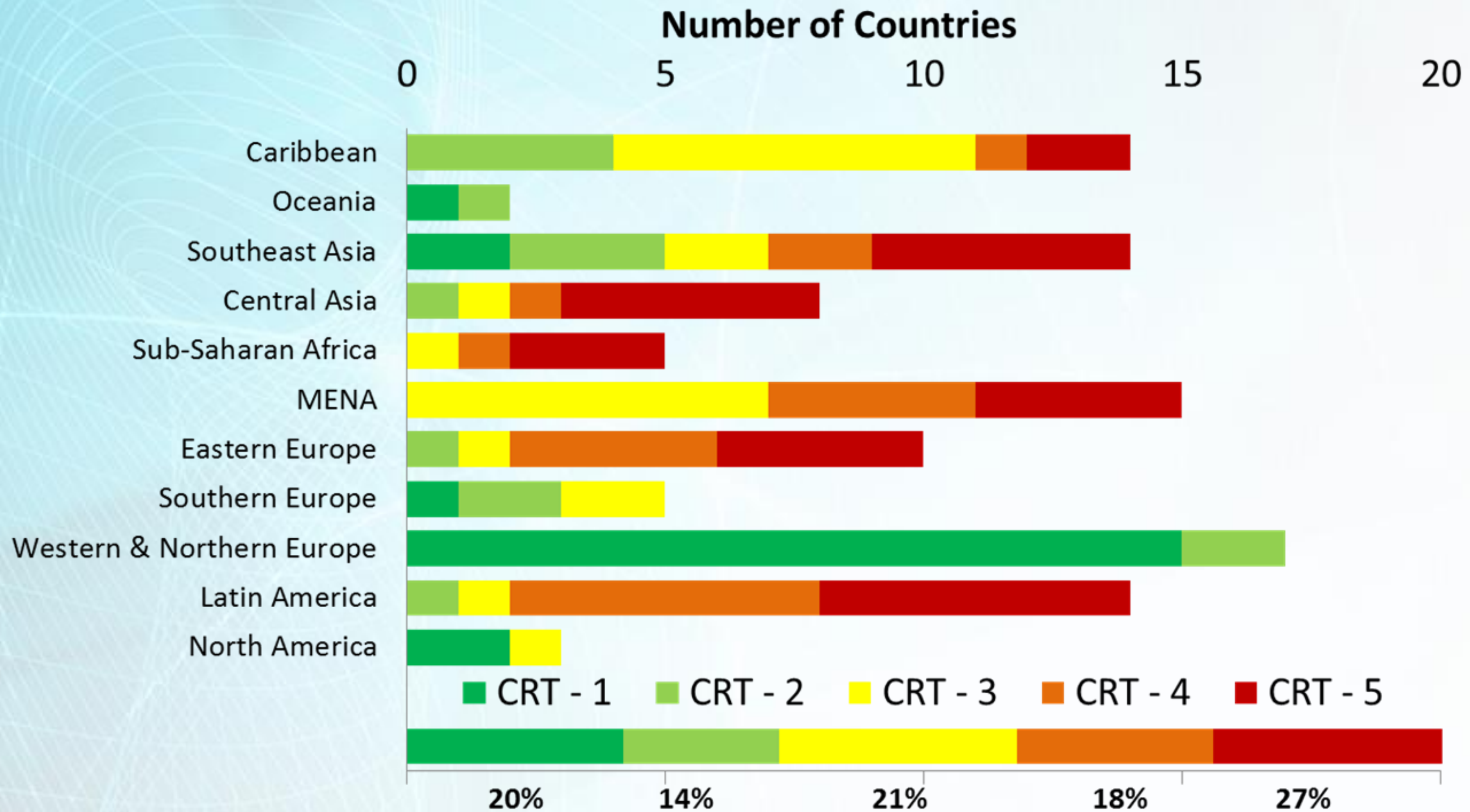
Historical Crisis (Pre-1995)

- **Government would obtain foreign reserves through:**
  - Exchange Controls
  - Deposit Freezes
  - Debt Moratoria
  - Confiscation
- **Examples**
  - Mexico
  - Brazil
  - Turkey
  - South Africa

Modern Crisis (Post-1995)

- **Some sovereign defaults have spared private entities when:**
  - Moratoria would not be productive
  - Entity is key to economic well-being
  - Entity has access to foreign exchange
  - Negative long-term consequences of T&C (i.e. reduced FDI)
- **Examples**
  - Ecuador
  - Pakistan
  - Ukraine
  - Jamaica

Regional Distribution of CRT’s



What are the Key Components of Country Risk?

- Country Risk
  - Economic Risk
  - Political Risk
  - Financial System Risk (both insurance and non-insurance)

Country Risk – Economic Risk

The likelihood that fundamental weaknesses in a country's economy will cause adverse developments for an insurer.

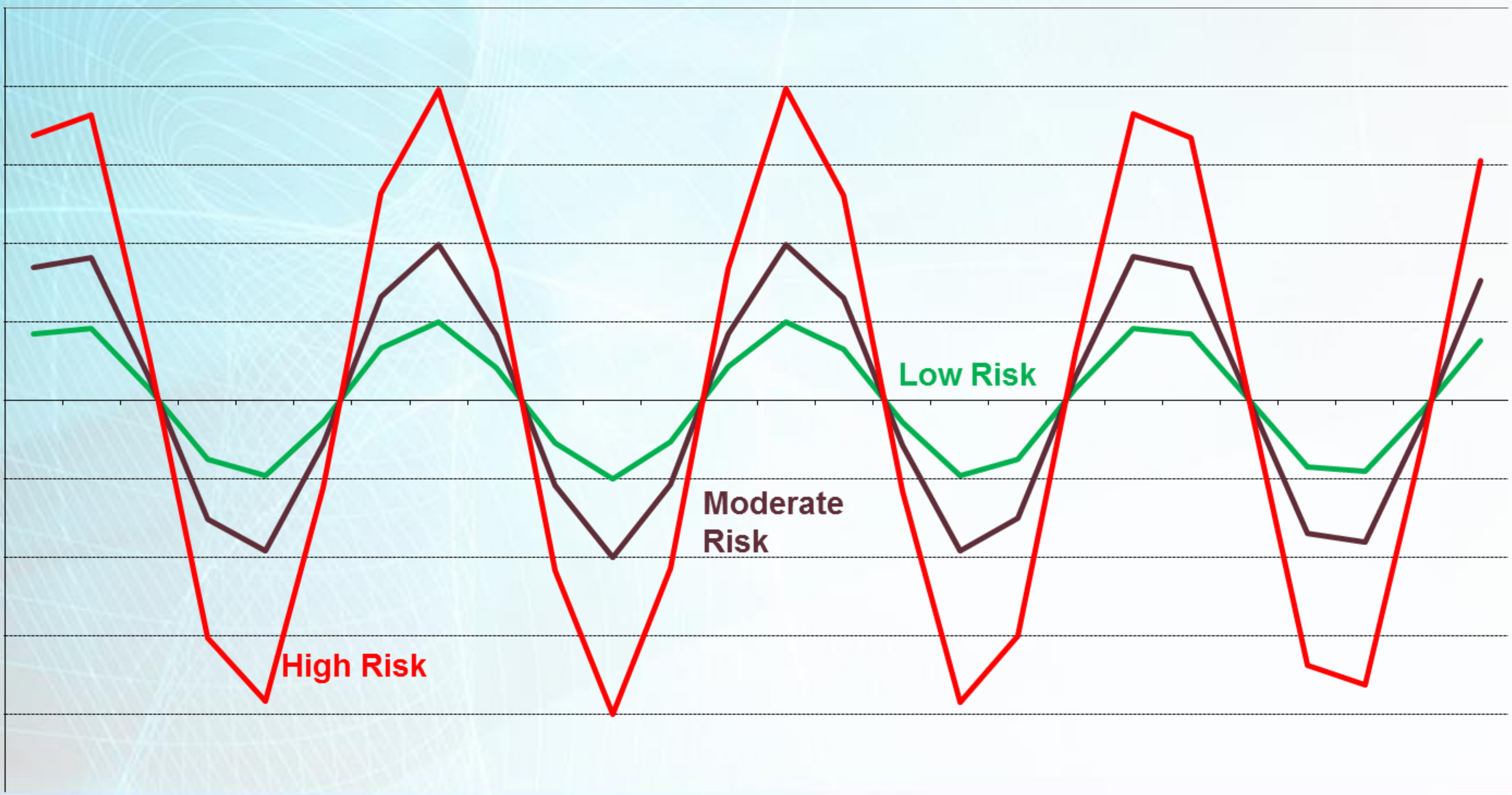
A.M. Best's determination of economic risk evaluates the state of the domestic economy, government finances and international transactions, as well as prospects for growth and stability.

Factors to take into account:

- Economic and political size of the country
- Wealth of a country
- Length and depth of business cycles
- Inflation volatility

Country Risk – Economic Risk

Business Cycles are Amplified in Countries With More Country Risk

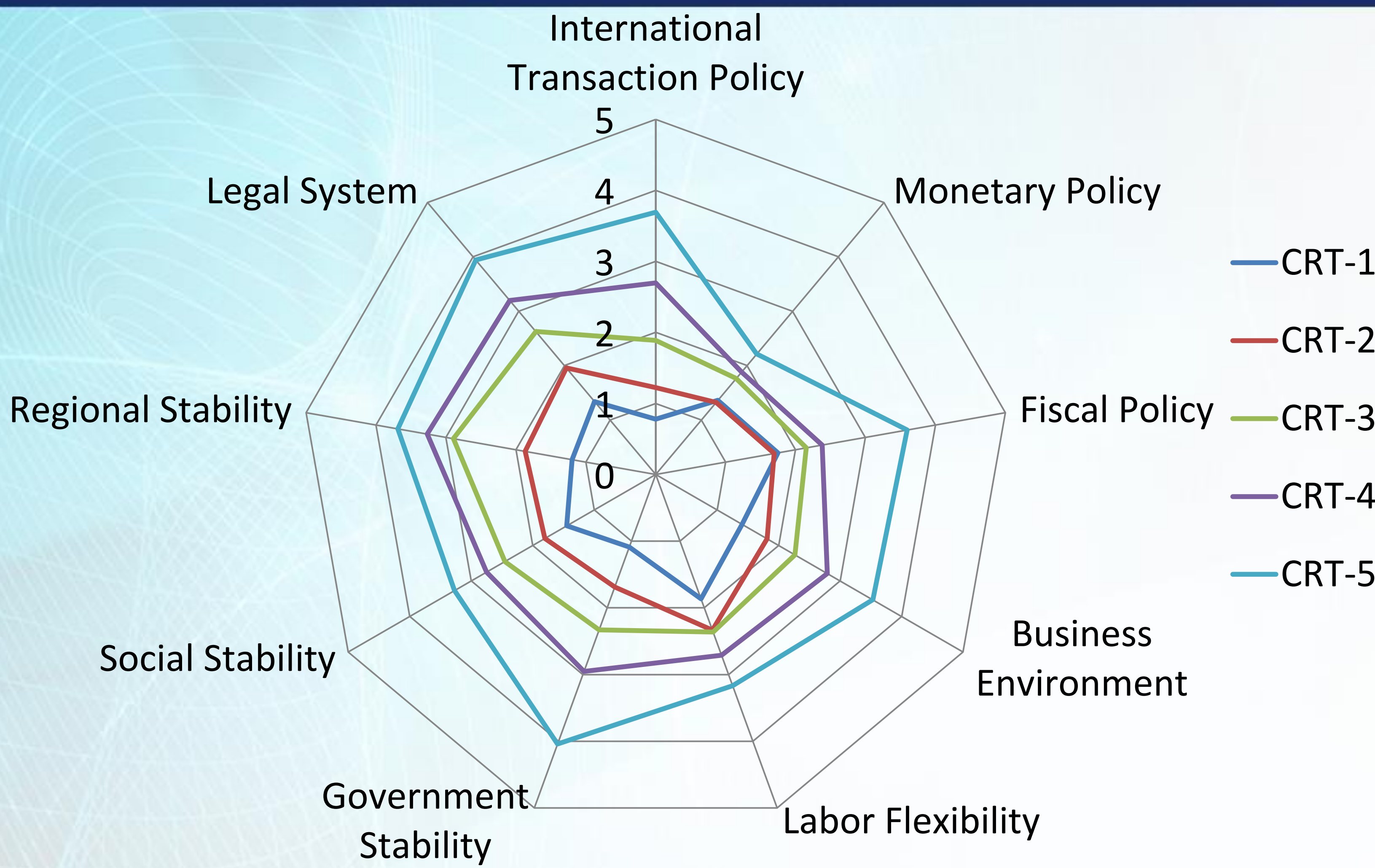


Country Risk – Political Risk

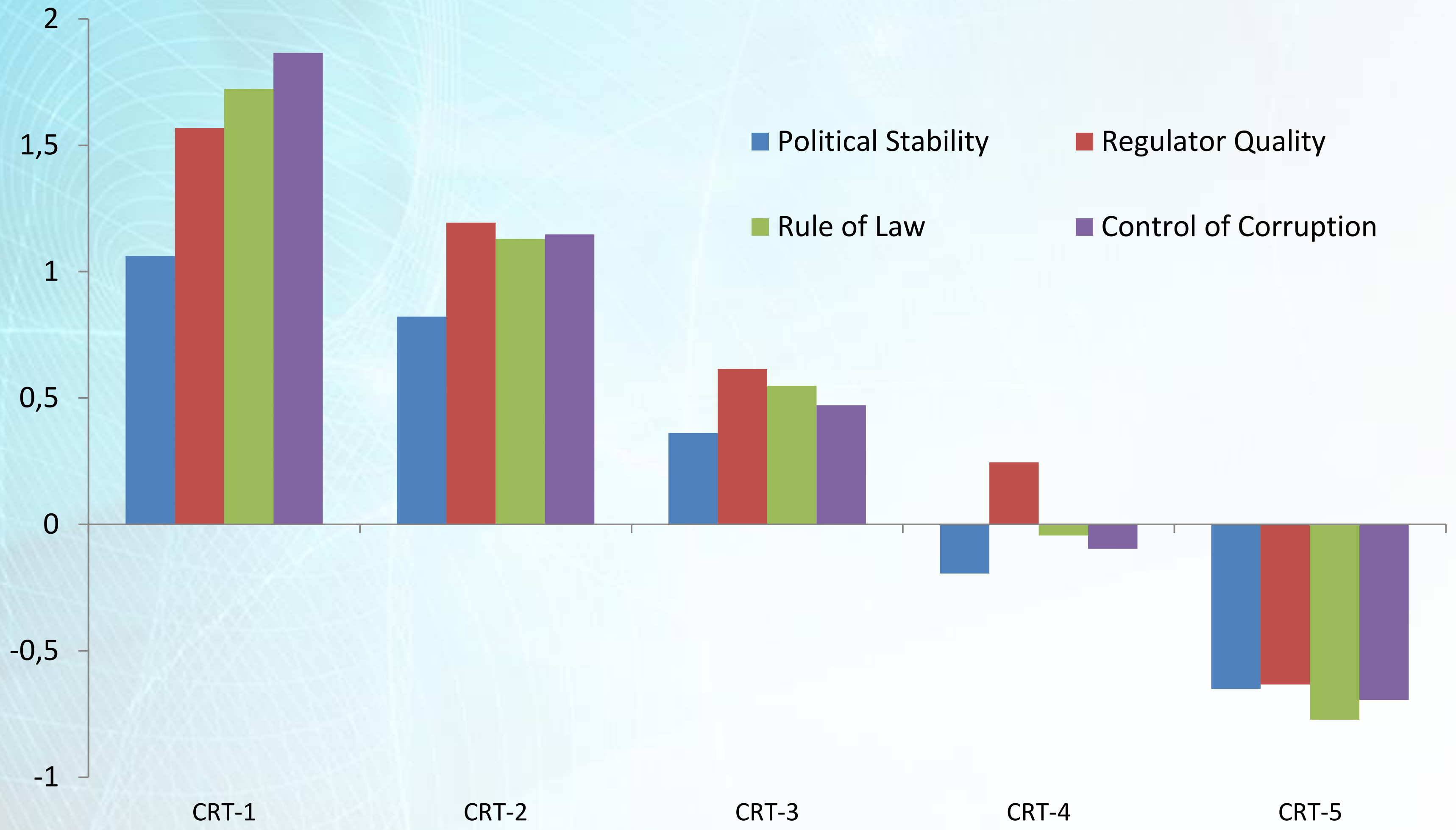
The likelihood that governmental or bureaucratic inefficiencies, societal tensions, an inadequate legal system or international tensions will cause adverse developments for an insurer.

Evaluation of business environment	• How easy/difficult is it to do business?
Strength of legal system	• How prevalent is corruption? • Are the property rights respected? • Are contracts enforceable?
Government and social stability	• How likely is government disruption? • Are there likely to be political/social unrest?

Country Risk – Quantifying Political Risks



Country Risk – Political Risk World Wide Governance Indicators



Country Risk – Financial Risk

The risk that financial volatility may erupt due to:

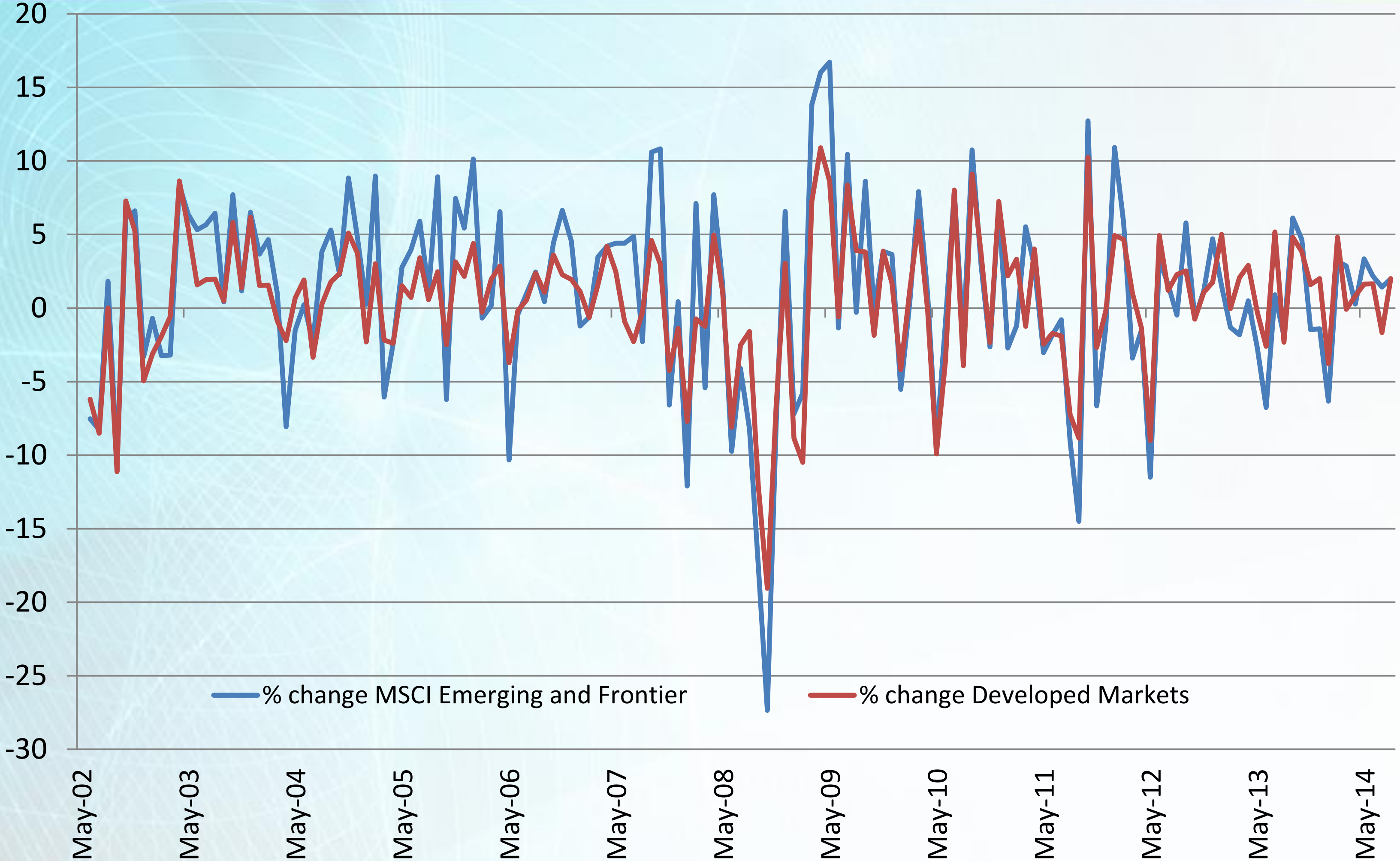
- Inadequate reporting standards
- Weak banking systems
- Asset markets
- Poor regulatory structure

Non-insurance financial system risk considers a country's:

- Banking system
- Accounting standards
- Government finances

How vulnerable the financial system is to external or internal volatility

Country Risk Financial System Risk Financial Market Volatility



Country Risk – Financial Risk

Financial System Risk – Insurance Specific

The risk that the insurance industry’s levels of development and public awareness; transparency and effectiveness of regulation; reporting standards; and regulatory sophistication will contribute to a volatile financial system and compromise an insurer’s ability to pay claims.

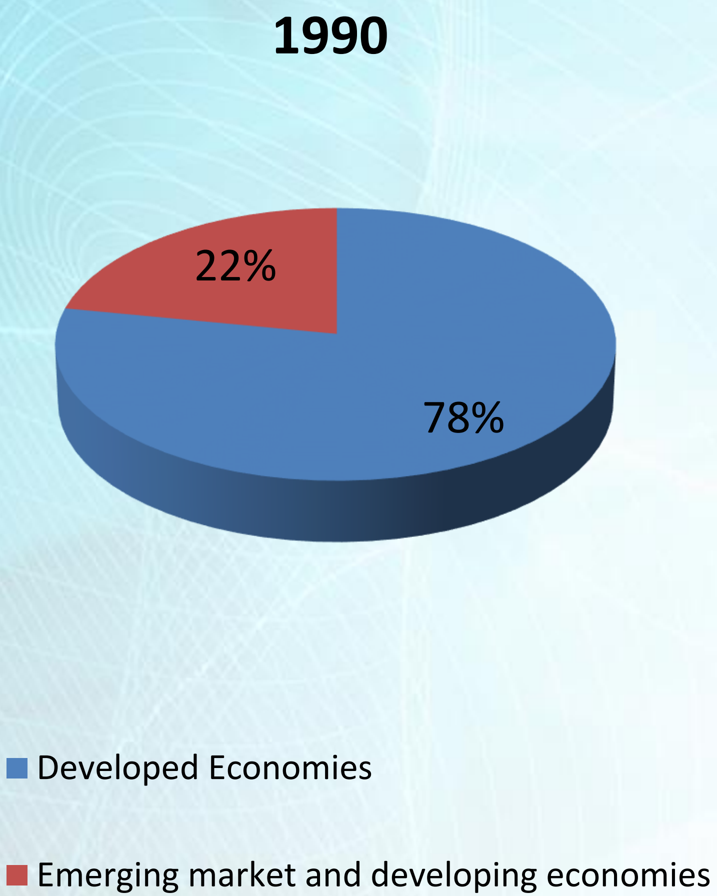
- Insurance regulatory environment
- Adoption of the ICP’s
- Legislation
- IAIS membership
- Supervisory authority

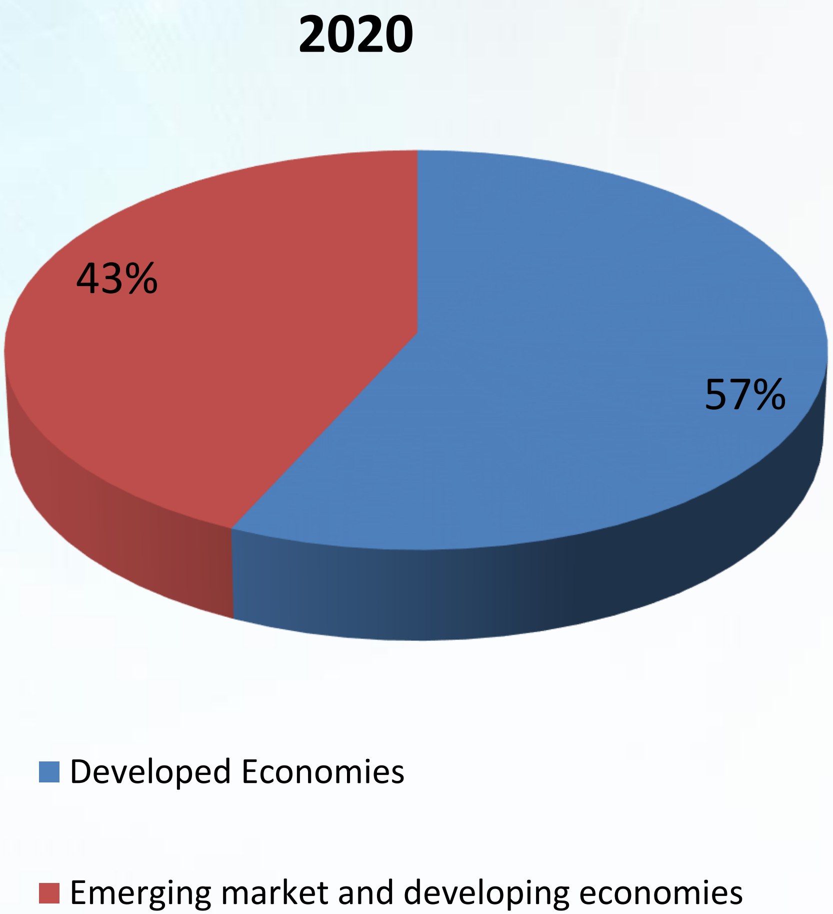
Country Risk –
Event Risk and Short-term Volatility

Recent Events:

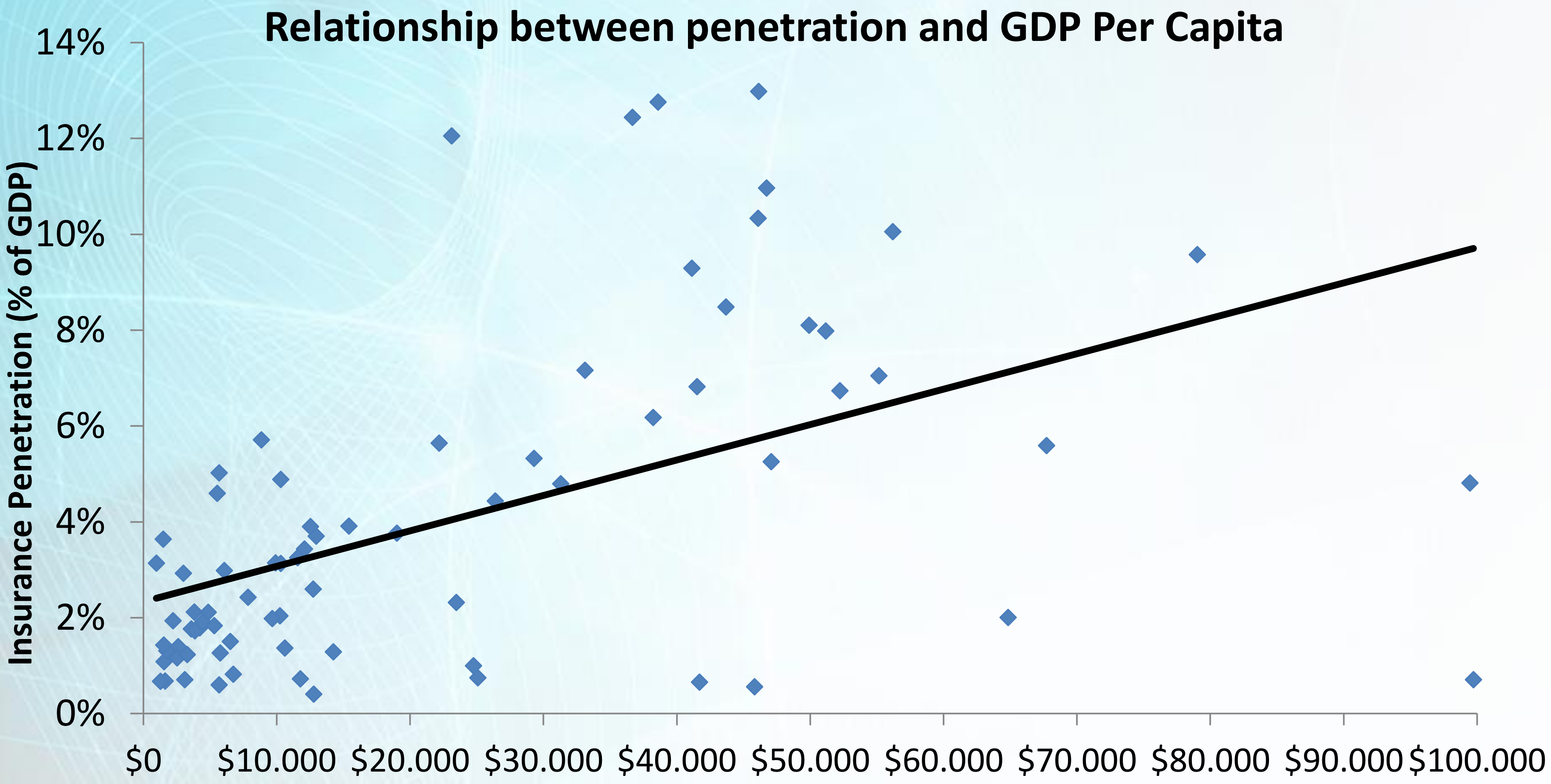
- Global market volatility (commodities, equities, currency, fixed income)
- Implications of negative interest rates
- Potential for missteps in extraordinary accommodative monetary policy (ECB, BOJ, Fed)
- Rise of ISIS and other militant groups creating further political instability
- Slowing growth in emerging markets
- Sovereign credit issues (Middle East/Brazil)
- Migrant crisis
- Global pandemics (Ebola/Zika)

Country Risk - Increasing Relevance of Emerging Markets

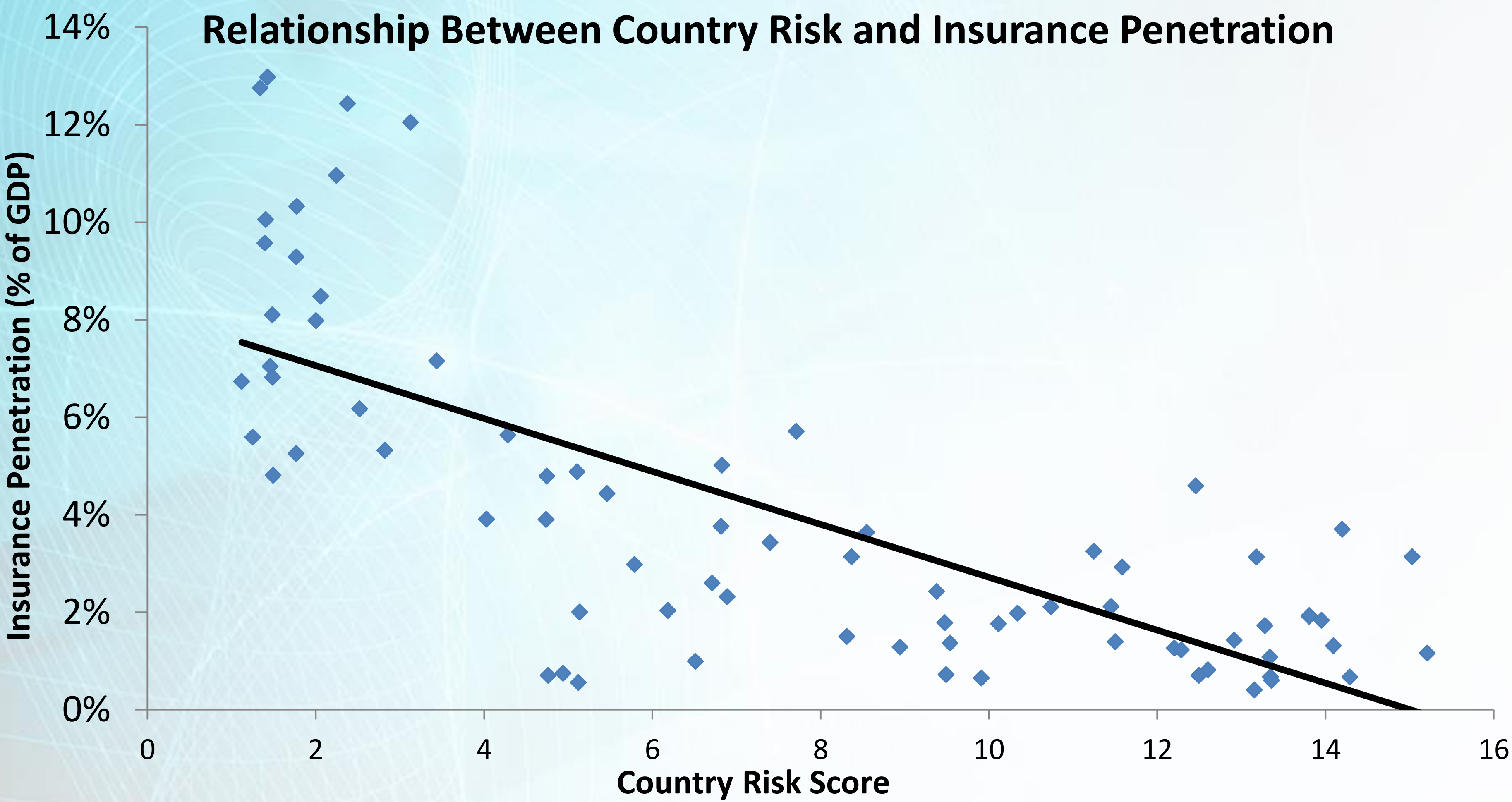




Country Risk - Insurance Penetration by GDP per Capita



Country Risk and Insurance Penetration



Country Investment Classes – CIC's

Investment risk charges are scaled up in the Universal BCAR based on asset's origin, not the companies domicile, using the following table:

Asset Class	Risk Charge CIC 1	Relative Risk Charge CIC 2	Relative Risk Charge CIC 3	Relative Risk Charge CIC 4	Relative Risk Charge CIC 5
Bonds & Preferred Stocks	1	1.25	1.5	2	2.5
Common Stocks	1	1.25	1.5	2	2.5
Real Estate	1	1.25	1.5	2	2.5
Cash	1	2	5	7	10

BCAR

Best's Capital Adequacy Model

How is BCAR Used?

- As an analytical tool
- Indication of current balance sheet strength
- Proforma projections
- Stress tests…Natural cats…Terrorism
- Other what if scenarios:
  - Changes to reinsurance
  - Business acquisition or disposition
  - Changes in asset (or liability) mix
  - US government default
- Most important … it is a basis for discussion

Fundamentals of BCAR

- Best Capital Adequacy Ratio (BCAR) is a comprehensive tool that evaluates many of the risks to the balance sheet simultaneously and generates an overall estimate of the required level of capital to support those risks
  - Leverage
  - Capital structure / holding company
  - Adequacy of loss reserves
  - Quality and diversification of assets
  - Premium adequacy

- Other BCAR considerations: liquidity; profitability; growth rate; quality and appropriateness of reinsurance program

- BCAR compares the available capital to required capital to determine the balance sheet strength

Fundamentals of BCAR (cont'd)

In addition, BCAR:

- Is just one component of A.M. Best's integrated rating approach
- Interactive; what-if scenario testing
- Dynamic: reacts to changing risk profile
- Consolidated approach
- Capital factors calibrated to a 1% expected
- Policyholder deficit (EPD)

Current Structure – PC BCAR

BCAR Ratio = Adjusted Surplus / Net Required Capital

Adjusted Surplus (APHS)

Reported Surplus (PHS)
Equity Adjustments:
- Unearned Premiums (DAC)
- Equalization/Contingency Reserves
- Loss Reserves
- Assets

Debt Adjustments:
- Surplus Notes
- Debt Service Requirements

Other Adjustments:
- Future Operating Losses
- Potential Catastrophe Loss
- Future Dividends
- Goodwill
- Other Intangible Assets
- Minority Interests, etc.

Net Required Capital

Gross Required Capital (GRC):
- (B1) Fixed Income Securities
- (B2) Equity Securities
- (B3) Interest Rate
- (B4) Credit
- (B5) Loss and LAE Reserves
- (B6) Net Premiums Written
- (B7) Off-Balance Sheet

Covariance Adjustment

Net Required Capital (NRC)*

*NRC= $\mathrm{SQRT}\left[(B1)^2+(B2)^2+(B3)^2+(0.5*B4)^2 +[(0.5*B4)+B5)]^2+(B6)^2 \right] + B7$

BCAR Model Components

Investment Risk (B1 & B2)

B1 - Fixed Income Securities

Risk of default (bonds), illiquid (mortgage loans)

B2 - Equity Securities

Risk of Market decline (stocks) and improper value (real estate).

Cash, Other Invested Assets, Real Estate

Interest Rate Risk (B3)

Similarities between Annuities & Life and P&C:

- Risk of having to sell fixed income assets when market values are lower.
- Stress test exposure to increase in interest rates.
- Liquidity risk during the year.
- Already marked bonds to market in Adjusted Surplus (APHS).

Differences between Annuities & Life and P&C:

- (P&C) Risk is driven by sudden shock event. Usually natural catastrophe, could be man-made.
- (Life) Risk is consumer driven. Search for higher returns with other carriers.

Credit Risk (B4)

Risk of default on agent balances, non-invested assets, reinsurance recoverables

Risk that an entity may not meet its contractual, financial obligations as they come due.

Reinsurance Charges

- Credit risk charge based on quality of reinsurer (FSR) (ability to pay).
- Reinsurance dependence charge
- Funds Held, LOCs, etc Credit

BCAR Model Components

Reserve Risk (B5)

- Net of reinsurance
- Deficiency factor for expected deficiency
- Industry by Line adjusted for Company Stability and Size
- Growth Charge
- Diversification Credit

Premium Risk (B6)

- Risk that pricing of business written next year will be inadequate
- Net of Reinsurance
- By Line adjustments
- Growth Charge (Non-Life)
- Diversification Credit

Business Risk

- Contingent Liabilities
- Long term Leases
- Interest rate Swaps
- Guarantees to affiliates
- Non-controlled assets

Other Inputs

- Baseline PML
- Country Investment Risk Charge
- Stress Test(s) – 2 CAT Events or specialized (e.g. – Surety, etc)

BCAR - Conclusion

- Fundamental in the assessment of Balance Sheet Strength
- Risk-adjusted view that can be projected and stress tested
- A starting point in the rating assessment, not the end
- Companies’ risk profiles, ERM and operating history effect how AM Best views BCAR

BCAR
Best's Capital Adequacy Model

UPCOMING CHANGES

Reasons for Proposed Changes

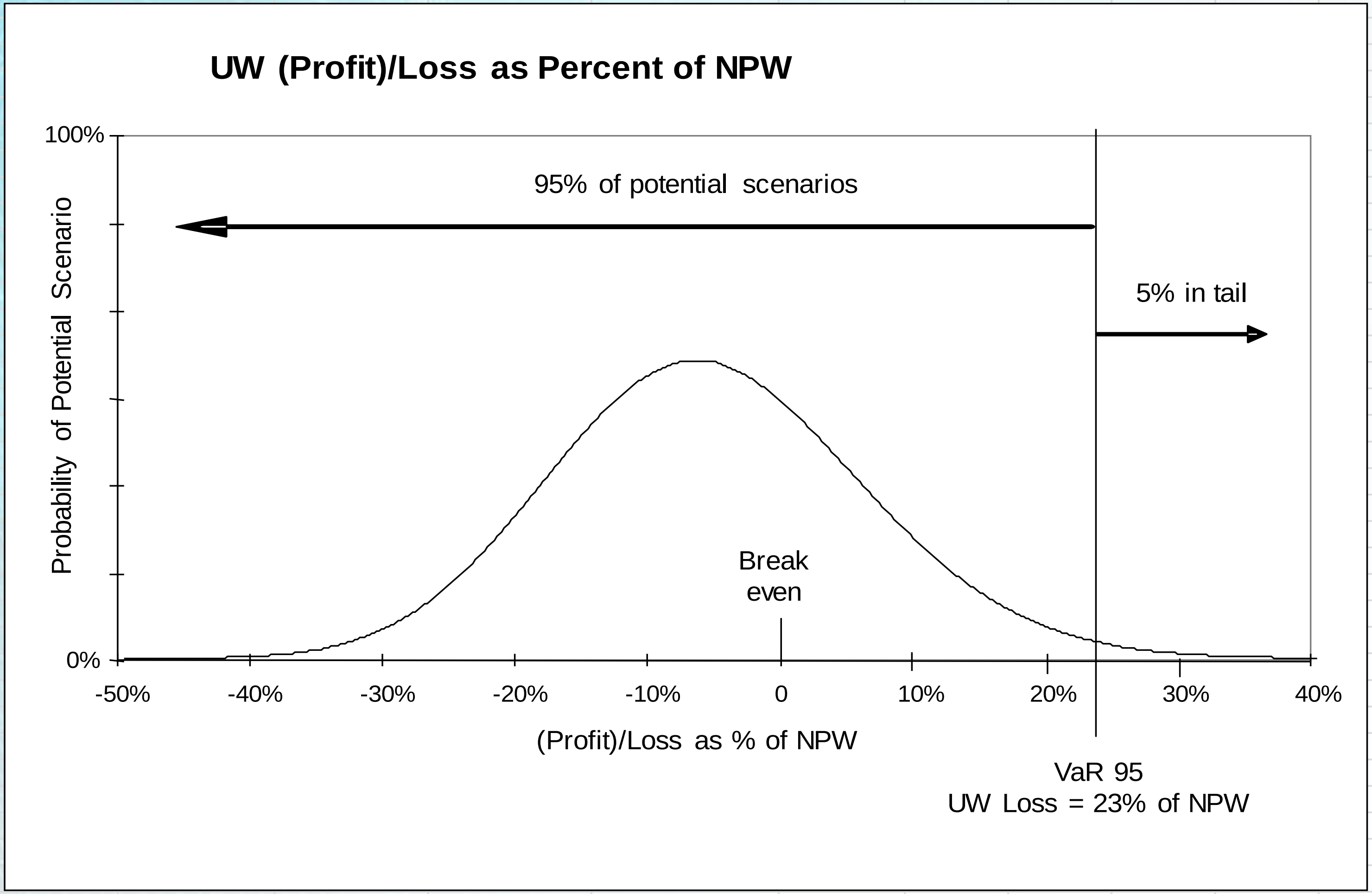
- More sophisticated and faster software available now
  - Simulations / probability curves
  - Correlations / diversification
  - Company specific detail
    - Assets
    - Reinsurers
    - Profitability
    - Volatility
  - Economic scenario generators (ESGs)

Reasons for Proposed Changes

- Metrics better understood and utilized by industry
  - Value at Risk (VaR) … aka Probability of Default
    - In order to calculate VaR, you need:
      - A probability distribution of potential outcomes
      - A time horizon over which those outcomes can occur
      - A confidence level
    - VaR is the value associated with the confidence level selected
      - E.g., VaR99 = $100M means 99% of all expected outcomes would be less than $100M, or only 1% of all expected outcomes would be greater than $100M
- Consistent confidence intervals across risks
  - 95%, 99%, 99.5%, 99.8%, 99.9%

Reasons for Proposed Changes

Value at Risk – sample VaR 95



Summary of Changes

- Do not intend to change underlying view of the risks
  - Bonds – default risk
  - Common stock – price volatility
  - Interest rate risk – selling fixed income assets at depressed values
  - Reinsurance credit risk – uncollectible recoverables
  - Pricing risk – potential for UW loss on business written next year
  - Reserve risk – potential for unanticipated adverse reserve development
- Do not intend to change the main risk categories of the model
- Goals are to:
  - Generate risk factors using stochastic simulations from probability curves & ESG
  - Incorporate company specific detailed data from SRQ & statutory financial statements

Summary of Changes

- New Score
  - Formula change
  - Movement of PMLs in formula
  - Nat Cat PMLs – All perils combined
- 5 scores calculated and published – instead of 1
  - 95%, 99%, 99.5%, 99.8%, 99.9%

Summary of Changes

- Bond defaults
- Publicly traded common stocks
- Other asset classes
- Interest rate risk
- Credit risk – reinsurance recoverables
- Premium risk
- Reserve risk

Current Structure – PC BCAR

BCAR Ratio = Adjusted Surplus / Net Required Capital

Adjusted Surplus (APHS)

Reported Surplus (PHS)
Equity Adjustments:
- Unearned Premiums (DAC)
- Equalization/Contingency Reserves
- Loss Reserves
- Assets

Debt Adjustments:
- Surplus Notes
- Debt Service Requirements

Other Adjustments:
- Future Operating Losses
- Potential Catastrophe Loss
- Future Dividends
- Goodwill
- Other Intangible Assets
- Minority Interests, etc.

Net Required Capital

Gross Required Capital (GRC):
- (B1) Fixed Income Securities
- (B2) Equity Securities
- (B3) Interest Rate
- (B4) Credit
- (B5) Loss and LAE Reserves
- (B6) Net Premiums Written
- (B7) Off-Balance Sheet

Covariance Adjustment

Net Required Capital (NRC)*

*NRC= SQRT $[(B1)^2+(B2)^2+(B3)^2+(0.5*B4)^2+[(0.5*B4)+B5)]^2+(B6)^2] + B7$

New Structure – PC BCAR

BCAR Ratio = (Available Capital – Net Required Capital) / Available Capital

<u>Available Capital (AC)</u>

Reported Capital (PHS)

Equity Adjustments:
- **Unearned Premiums (DAC)**
- **Equalization/Contingency Reserves**
- **Loss Reserves**
- **Assets**

Debt Adjustments:
- **Surplus Notes**
- **Debt Service Requirements**

Other Adjustments:
- **Future Operating Losses**
- **Potential Loss**
- **Future Dividends**
- **Goodwill & Other Intangible Assets**
- **Minority Interests, etc.**

<u>Net Required Capital</u>

Gross Required Capital (GRC):
- **(B1) Fixed Income Securities**
- **(B2) Equity Securities**
- **(B3) Interest Rate**
- **(B4) Credit**
- **(B5) Loss and LAE Reserves**
- **(B6) Net Premiums Written**
- **(B7) Off-Balance Sheet**
- **(B8) Potential Catastrophe Loss**

Covariance Adjustment

Net Required Capital (NRC)*

*NRC= SQRT [(B1)²+(B2)²+(B3)²+(0.5*B4)² +[(0.5*B4)+B5)]²+(B6)²] + B7 + B8

Example of Impact to PC Model

<u>Current PC BCAR calculation (ratio to NRC)</u>

APHS (ex Potential Cat Losses) = $150M
Potential Cat Losses = $30M
NRC (ex Potential Cat Losses) = $80M

BCAR = (150 – 30) / 80 = 120/80 = 150.0

<u>Planned PC BCAR calculation (ratio to available capital)</u>

Available Capital (ex Potential Cat Losses) = $150M
Potential Cat Losses = $30M
NRC (ex Potential Cat Losses) = $80M
NRC (incl Potential Cat Losses) = $110M

BCAR = (150 – 110) / 150 = 40/150 = 26.7

Example of Impact to PC Model

<u>Current PC BCAR calculation (ratio to NRC)</u>

Potential Scores:
Low of 0.0 to Max of 999.9
Want BCAR > 100.0

<u>New PC BCAR calculation (ratio to available capital)</u>

Potential Scores:
Low of -999.9 to Max of 100.0
Want BCAR > 0.0

Example of Impact to PC Model

Current Calculation

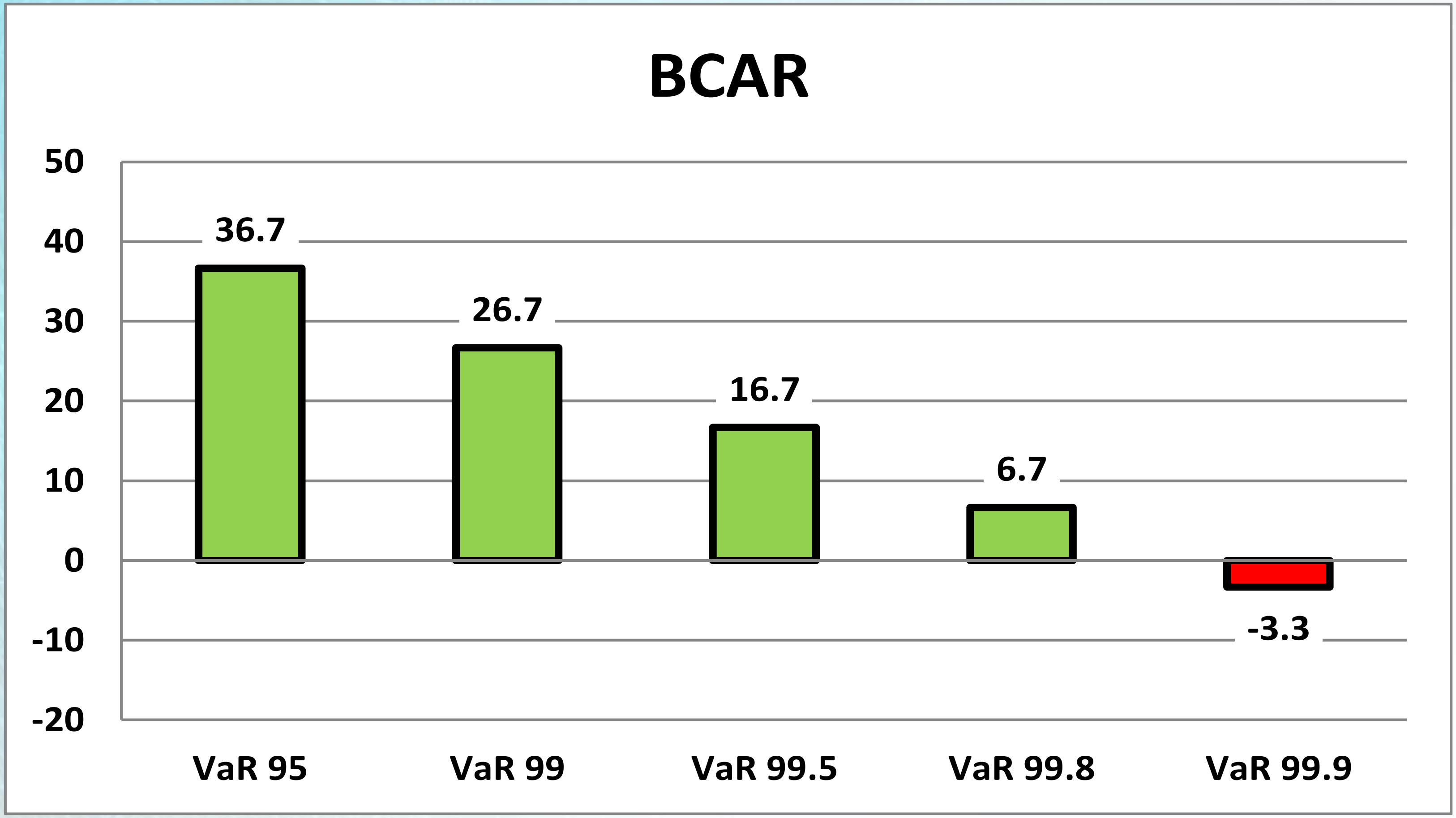
a. APHS (excl Potential Cat Losses) =	150	M
b. Potential Cat Losses =	30	M
c. Net Required Capital (excl Cat Losses) =	80	M
BCAR = (a - b) / (c) =	150.0	

Planned Calculation	VaR 95	VaR 99	VaR 99.5	VaR 99.8	VaR 99.9	
a. Available Capital (excl Potential Cat Losses) =	150	150	150	150	150	M
b. Potential Cat Losses =	20	30	40	50	60	M
c. Net Required Capital (excl Cat Losses) =	75	80	85	90	95	M
BCAR = (a - b - c) / (a) =	36.7	26.7	16.7	6.7	-3.3	

Notes: Available Capital is the same at each confidence level.
Net Required Capital increases as confidence level increases.

Company did not have enough capital to absorb its NRC (incl Cats) at the 99.9% confidence level. The shortfall amounted to 3.3% of Available Capital.

Display of BCAR Scores



Other UPCOMING CHANGES at A.M. Best

Obrigado!

Questions?

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