

# Overview of A.M. Best's Stochastic Based BCAR for U.S. P/C Insurers

Thomas Mount, ACAS, MAAA, CERA, CCM Vice President, A.M. Best

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### Agenda



- Overview of BCAR
- Summary of Changes
- Treatment of Risks in BCAR
- Observations/Analyst Views
- Applying BCAR Output in Rating Process



### Overview

- Best's Capital Adequacy Ratio (BCAR) is a comprehensive quantitative 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 and compares it with available capital
- BCAR is a <u>key</u> tool in the assessment of balance sheet strength
  - Not the sole determinant of Balance Sheet Strength
  - Not the sole determinant of the rating



- Do not intend to change underlying view of the risks
- Do not intend to change the main risk categories of the models
- Goals are to:
  - Generate risk factors using stochastic simulations from probability curves & ESG
  - Incorporate company specific detailed data from SRQ & statutory financial statements

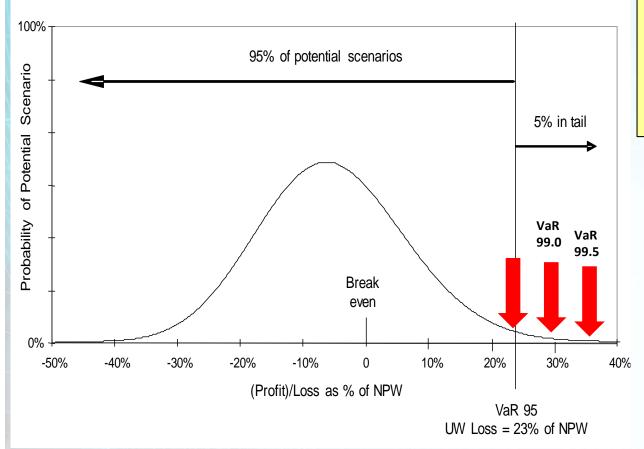


- More sophisticated and faster software available now
  - Simulations / probability curves
  - Correlations / diversification
  - Company specific detail
  - Economic scenario generators (ESGs)
    - A computer model that randomly simulates thousands of possible values for a variety of economic and financial variables over a series of selected timeframes
    - An ESG does not predict a path the economy will follow but instead produces a collection of possible paths including some that have not yet been observed



New Metric – VaR (Value at Risk)

#### **UW (Profit)/Loss as Percent of NPW**



VaR does not tell us about what's in the tail so we need to look at more than one VaR



- 5 scores calculated and published instead of 1
  - 95%, 99%, 99.5%, 99.8%, and 99.9% confidence levels
- New Calculation of BCAR
  - Formula change
  - Difference between Available Capital and Required Capital, as a ratio to Available Capital
  - Better alignment with risk appetite/tolerance statements



- Bond Defaults (PC&LH)
- Publicly Traded Common Stocks (PC&LH)
- Other Asset Classes (PC&LH)
- Interest Rate Risk (PC&LH)
- Credit Risk Reinsurance Recoverables (PC&LH)
- Premium Risk (PC)
- Reserve Risk (PC)

### New Structure – PC BCAR



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



#### **Available Capital (AC)**

**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.

#### **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) Business Risk
- (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 Score

#### **Current PC BCAR Calculation (ratio to NRC)**

APHS (ex Potential Cat Losses) = \$150M Potential Cat Losses = \$30M NRC (ex Potential Cat Losses) = \$80M BCAR = (150 - 30) / 80 = 120/80 = 150.0

#### Planned PC BCAR Calculation (ratio to Available Capital)

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



#### Current PC BCAR Calculation (ratio to NRC)

**Potential Scores:** 

Low of 0.0 to Max of 999.9

Wanted BCAR > 100.0

#### New PC BCAR Calculation (ratio to Available Capital)

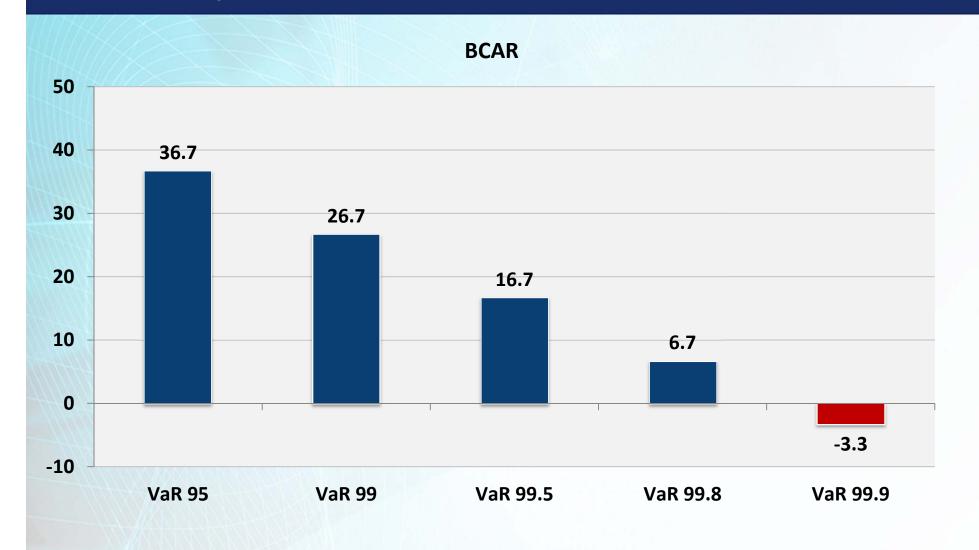
**Potential Scores:** 

Low of -999.9 to Max of 100.0

Want BCAR > 0.0



### Display of BCAR Scores





### Investment Risk (PC & LH)

- Fixed Income Securities Default Risk
  - Bonds
  - Mortgage Loans
  - Preferred Stocks
- Equities Market Value Volatility
  - Publicly Traded Common Stocks
  - Real Estate
  - Schedule BA assets
- Affiliated and Private investments receive 100% risk charge



### Investment Risk (PC & LH)

- Bonds Default Risk
  - Based on ESG
  - Update bond default risk factors
    - Reflect maturity of company's bond portfolio (SRQ)
    - Reflect asset quality of company's bond portfolio (SRQ)
    - Only defaults occurring in first 10 years are considered
    - Offset default with recovery on defaults (vary by rating)
    - Net defaulted amounts are present valued



### PC SRQ

#### **Bond Quality & Maturity SRQ question:**

3b.FIXED INCOME PORTFOLIO ANALYSIS: Please complete the following Quality and Maturity Distribution of All Bonds Owned as of December 31, 2013. Please show US Governments on line 18, and show Parents, Subsidiaries, and Affiliates on line 19. Dollar amounts should be stated at Book/Adjusted carrying values (in \$000s). Number of Issuers should be provided in whole numbers and represents the number of bond issuers associated with the dollar amount of bonds expiring at that maturity date and rating.

(01)	Maturing	in	Maturing in	Over	Maturing in	Over	Maturing in	Over	Maturing in	Over	Maturing in	Over	
	1 Year of L	ess	1 Year Through	3 Years	3 Years Through	5 Years	5 Years Through	10 Years	10 Years Through	h 20 Years	20 Year	s	Total
	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)	(10)	(11)	(12)	(13)	(14)
	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Rating (or equivalent to rating)	(\$000)	of Issuers	(\$000)	of Issuers	(\$000)	of Issuers	(\$000)	of Issuers	(\$000)	of Issuers	(\$000)	of Issuers	(\$000)
1. AAA													
2. AA+													
3. AA													
4. AA-													
5. A+													
6. A													
7. A-													
8. BBB+													
9. BBB													
10. BBB-													
11. BB+													
12. BB													
13. BB-													
14. B+ to B-													
15. CCC+ to CCC-													
16. CC to C													
17. D (in or near default)													
18. U.S. Governments*		XXX		XXX		XXX		XXX		XXX		XXX	
19. Parents, Subsidiaries, & Affiliates**													
20. All Other													
21. TOTAL (Lines 1 through 20)***													

<sup>\*</sup>Row 18 Column 14 Total should match NAIC annual statement Schedule D Part 1A Section 1 Line 1.7 Column 6 (divided by 1000).

<sup>\*\*</sup>Row 19 Column 14 Total should match NAIC annual statement Schedule D Part 1A Section 1 Line 8.7 Column 6 (divided by 1000).

<sup>\*\*\*</sup>Row 21 Column 14 Total should match NAIC annual statement Schedule D Part 1A Section 1 Line 9.7 Column 6 (divided by 1000).



#### **Observation:**

Model reacts to bond quality and maturity

#### **YE 2014 Bond Risk Factors**

Using P/C Industry's Bond Mix

	Percent of Total	Current BCAR	VaR 95	VaR 99	VaR 99.5	VaR 99.8	VaR 99.9
NAIC 1	82.2%	1.0%	0.7%	1.1%	1.3%	1.5%	1.7%
NAIC 2	13.7%	2.0%	4.1%	5.4%	5.9%	6.4%	6.9%
NAIC 3	2.2%	4.0%	11.5%	13.2%	13.7%	14.2%	14.7%
NAIC 4	1.4%	4.5%	21.0%	23.0%	24.0%	24.5%	25.0%
NAIC 5	0.3%	10.0%	48.0%	48.5%	49.0%	49.5%	50.0%
NAIC 6	0.2%	30.0%	63.0%	64.0%	65.0%	66.0%	67.0%
Total (ex US Govt)	100.0%	1.3%	1.9%	2.5%	2.8%	3.0%	3.3%

# Investment Risk – PC Analyst View

#### **Observation:**

Model reacts to bond quality and maturity

	P/C indust	ry allocatio	<u>n</u>									
	Bond Maturity											
	<u>m&lt;1yr</u>	<u>1yr<m<3< u=""></m<3<></u>	3yr <m<5< td=""><td>5yr<m<10 1<="" td=""><td>.0yr<m<20< td=""><td><u>20yr<m< u=""></m<></u></td><td></td></m<20<></td></m<10></td></m<5<>	5yr <m<10 1<="" td=""><td>.0yr<m<20< td=""><td><u>20yr<m< u=""></m<></u></td><td></td></m<20<></td></m<10>	.0yr <m<20< td=""><td><u>20yr<m< u=""></m<></u></td><td></td></m<20<>	<u>20yr<m< u=""></m<></u>						
AAA	4.6%	4.8%	5.0%	7.6%	4.0%	2.5%						
AA+	1.5%	2.2%	2.6%	4.8%	3.3%	1.6%	Avg					
AA	1.0%	2.9%	2.5%	5.0%	2.3%	0.6%	Maturity					
AA-	0.8%	1.9%	2.1%	3.6%	1.8%	0.6%	for:					
A+	0.7%	1.8%	2.1%	3.3%	1.1%	0.4%						
А	1.2%	2.8%	2.9%	4.4%	1.1%	0.4%	<u>naic 1</u>					
A-	0.6%	1.7%	1.9%	3.1%	0.6%	0.3%	7.3					
BBB+	3.3%	8.5%	8.5%	16.0%	1.9%	1.6%						
BBB	3.0%	8.0%	8.6%	18.0%	1.7%	1.3%	naic 2					
BBB-	1.5%	3.0%	4.2%	9.0%	1.0%	0.9%	6.1					

Avg Quality for: naic 1 AA/AA-



### Investment Risk (PC & LH)

- Mortgage Loans Default Risk
  - Based on NAIC RBC study of commercial mortgage loans
    - RBC study produced factors at VaR 92 level for various classes
  - Update Mortgage Loans risk factors
    - Reviewed NAIC RBC factors for CM1 thru CM5.
    - Not a material asset class for PC
    - 98% of commercial mortgages held by Life insurers were CM3 or better
    - Selected baseline risk factor based on CM3 and used real estate tail to get to factors for higher confidence levels
    - Companies can share greater details of portfolio for potential reduction in factors

# Investment Risk – Analyst Views

#### **Observation:**

New model has higher risk factors for Mortgage Loans

	<b>PC Current</b>	LH Cu	rrent	VaR	VaR	VaR	VaR	VaR		
	BCAR	BC/	AR	95	99	99.5	99.8	99.9		
Mortgage Loans	5.0%	Vario	ous	3.3%	4.9%	5.4%	6.2%	6.9%		
		VaR	VaR	VaR	VaR	VaR				
		95	99	99.5	99.8	99.9				
	CM1	1.0%	1.5%	1.7%	2.0%	6 2.29	<mark>%</mark>			
	CM2	2.3%	3.4%	3.8%	4.4%	4.89	%			
	CM3	3.3%	4.9%	5.4%	6.2%	6.99	<mark>%</mark>			
	CM4	6.3%	9.3%	10.3%	11.9%	6 13.19	<mark>%</mark>			
	CM5	8.5%	12.5%	13.8%	16.0%	6 <b>17.6</b> 9	%			



### Investment Risk (PC & LH)

- Preferred Stocks Default Risk
  - Based on bond defaults from ESG
  - Update preferred stock default risk factors
    - Assumes debt like features
    - Assumes ability and willingness to hold to maturity
    - Uses industry bond distribution risk factors
  - Use common stock risk factors when
    - Actively trading preferred stocks
    - Unable to hold to maturity (exposure to shock events)
    - Materiality



### Investment Risk (PC & LH)

- Common Stocks Market Value Volatility
  - Based on ESG
  - Update publicly traded common stock risk factors
    - Reflect volatility of stock market (stochastic portion S&P 500)
    - Reflect type of stocks held by company (SRQ Beta)
    - Credibility of company Beta based on degree of fit (R-squared)
    - Using 1 year time period

#### **Industry Baseline Risk Factors**

	PC Current	LH Current	VaR	VaR	VaR	VaR	VaR
	BCAR	BCAR	95	99	99.5	99.8	99.9
Publicly Traded Common Stock	15.0%	30.0%	25.0%	38.0%	43.0%	48.0%	50.0%



### PC SRQ

#### Common Stock Beta SRQ Question:

#### I. ASSET SECTION (Continued)

3c.COMMON STOCK PORTFOLIO ANALYSIS: Please enter the "Beta" and the associated "R-Squared" of your company's publicly traded common stock portfolio as of December 31, 2013 (including publicly traded Parent, Subsidiary, and Affiliated common stock). The "Beta" represents the level of movement in the market value of common stocks owned relative to the stock market as a whole over a specified period of time. "R-Squared" measures how reliable the calculated "Beta" is.

The stock portfolio should be separated based upon the country of the exchange in which the stock is traded. If a stock is traded on exchanges in multiple countries, only include it in one of the countries. If the total market value of the common stocks that are traded in a particular country is less than 5% of the rating unit's total publicly traded common stock portfolio market value, then a response for that country is not required.

Please use the Aggregate Method to calculate the portfolio Beta based upon the specified index shown. The Aggregate Method portfolio Beta at year end is determined by a simple linear regression using 52 weeks of time weighted rates of return for the entire portfolio. When using the value of the publicly traded common stock portfolio in the calculation of the Beta, do not include the effects of any hedging on the portfolio. For companies that do not want the administrative expense of calculating the portfolio Beta, please enter a Beta of 1.50 and R-Squared of 1.00 along with the market value of the common stocks in that portfolio.

#### **Publicly Traded Common Stocks**

(01)	(02)	(03)	(04)	(05)
	Market Value			Index
Location of Domestic Exchange	@12/31/2013			Used to Calculate
on which Common Stocks are Traded	(in \$000s)	Beta	R-Squared	Beta & R-Squared
United States of America				S&P 500
2. Canada				S&P/TSX Composite
3. United Kingdom				FT All Shares
4. Japan				TOPIX
5. Other (please specify)				Please specify:
6. Other (please specify)				Please specify:
7. Other (please specify)				Please specify:
8. TOTAL (Lines 1 through 7)		XXX	XXX	XXX



### Investment Risk (PC & LH)

- Real Estate Market Value Volatility
  - Based on ESG
  - Update Real Estate risk factors
    - Uses real estate index in ESG
    - Use same factors for Company Occupied and Investment real estate
    - Using 1 year time period

#### **Industry Baseline Risk Factors**

	PC Current BCAR	LH Current BCAR	VaR 95	VaR 99	VaR 99.5	VaR 99.8	VaR 99.9
Company Occupied Real Estate	10.0%	10.0%	12.6%	18.5%	20.5%	23.7%	26.1%
Investment Real Estate	20.0%	15.0%	12.6%	18.5%	20.5%	23.7%	26.1%



### Investment Risk (PC & LH)

- Schedule BA Assets Market Value Volatility
  - Based on ESG
  - Update Other Invested Assets risk factors
    - Reviewed volatility in over 30 different hedge fund indices in ESG
    - Selected baseline risk factors = 1.10 times S&P 500 factors
    - Companies can share greater details of portfolio for potential reduction in factors
    - Using 1 year time period

#### **Industry Baseline Risk Factors**

	PC Current BCAR	LH Current BCAR	VaR 95	VaR 99	VaR 99.5	VaR 99.8	VaR 99.9
Other Invested Assets (Unaffiliated)	20.0%	Various	27.5%	41.8%	47.3%	52.8%	55.0%



### Interest Rate Risk (PC)

#### Interest Rate Risk

- Risk of having to sell fixed income assets when market values are lower
- Exposure to a rise in interest rates over next one year
- Liquidity risk during the upcoming year
- Risk is driven by sudden shock event
  - PC Usually natural catastrophe, or man-made, could be economic



### Interest Rate Risk (PC)

#### Interest Rate Movements

- Based on ESG
- Simulated 10,000 potential one year changes in interest rates
- Reflects duration of company's fixed income asset portfolio (bonds-SRQ)
- Reflects liquidity need using Greater of Gross PML or 10% of surplus

	Proposed One Year Rise in Interest Rate									
Current	Vap of	VaD 00	VaR	VaR	VaR					
Current	Vak 95	VaR 99	99.5	99.8	99.9					
120 BP	170 BP	240 BP	270 BP	290 BP	310 BP					



### Credit Risk (PC & LH)

#### Credit Risk

- Risk of default on:
  - Reinsurance recoverables (recov on pd & unpd, ceded UPR)
- Reinsurance Recoverable Charge:
  - Credit risk charge (ability to pay)
    - Reinsurer AMB issuer credit rating
    - Duration of recoverables
    - Uses stochastic simulation software and impairment table
  - Credit Risk Charges reduced for:
    - Recovery on default (50%)
    - Funds Held (100%)
    - Acceptable LOCs & Trusts (up to 90%)
    - Discounted to present value
- Dispute Risk calculation remains



### Credit Risk (PC & LH)

Cumulative Impa	airment Rat	es and Ass	umed Rec	overy Rate	on Impair	ment					
Best's ICR											Recovery
of Reinsurer	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Rate
aaa	0.08%	0.11%	0.14%	0.18%	0.23%	0.29%	0.35%	0.42%	0.50%	0.58%	50%
aa+	0.14%	0.21%	0.28%	0.35%	0.43%	0.51%	0.60%	0.69%	0.78%	0.88%	50%
aa	0.20%	0.30%	0.41%	0.52%	0.64%	0.76%	0.89%	1.02%	1.16%	1.31%	50%
aa-	0.22%	0.42%	0.62%	0.82%	1.04%	1.26%	1.50%	1.74%	1.98%	2.24%	50%
a+	0.28%	0.62%	0.96%	1.30%	1.65%	2.00%	2.36%	2.72%	3.08%	3.45%	50%
а	0.35%	0.80%	1.26%	1.72%	2.18%	2.64%	3.10%	3.56%	4.03%	4.50%	50%
a-	0.45%	1.00%	1.56%	2.11%	2.67%	3.23%	3.79%	4.35%	4.91%	5.48%	50%
bbb+	0.84%	1.87%	2.90%	3.92%	4.94%	5.95%	6.97%	7.98%	8.99%	10.00%	50%
bbb	1.23%	2.97%	4.68%	6.34%	7.98%	9.57%	11.14%	12.67%	14.18%	15.65%	50%
bbb-	1.56%	3.83%	6.02%	8.13%	10.18%	12.15%	14.07%	15.93%	17.74%	19.50%	50%
bb+	3.73%	7.30%	10.80%	14.23%	17.60%	20.90%	24.15%	27.35%	30.49%	33.58%	50%
bb	4.77%	9.03%	13.08%	16.99%	20.77%	24.44%	28.02%	31.50%	34.91%	38.23%	50%
bb-	10.33%	15.53%	20.41%	25.05%	29.50%	33.79%	37.91%	41.90%	45.75%	49.46%	50%
b+	13.85%	18.59%	23.11%	27.47%	31.69%	35.79%	39.77%	43.65%	47.41%	51.07%	50%
b	19.53%	24.28%	28.87%	33.32%	37.65%	41.85%	45.93%	49.89%	53.73%	57.44%	50%
b-	23.30%	27.55%	31.74%	35.87%	39.94%	43.93%	47.84%	51.67%	55.40%	59.04%	50%
ccc+ and Lower	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50%
Not Rated	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50%

Model responds to credit quality, duration, and concentration in recoverables

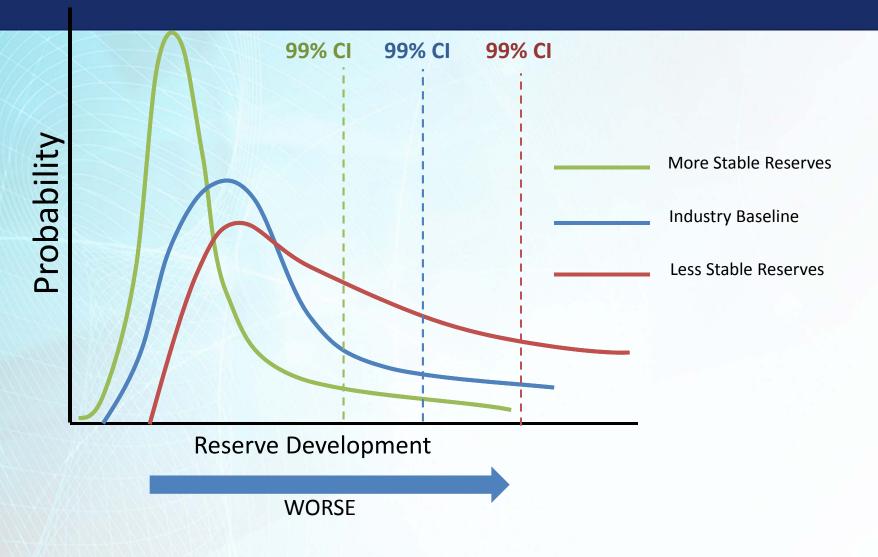


### Reserve Risk (PC)

- Risk of <u>unanticipated</u> adverse development on net loss
   & loss-adjustment expense (LAE) reserves
- Reserve Risk Factors
  - Uses stochastic simulation software
    - probability distributions
    - correlation matrix
- Further adjustment to required capital for Excessive Growth

### Company Adjusted Curve (PC)









**Line of Business Thresholds** 

Net Loss and LAE Reserve Risk Size Category

Schedule P Line	Very Small		Smal		Medium	Large
Homeowners/Farmowners	Under \$2M	\$2M	to	\$5M	\$5M to \$15M	Over \$15M
Personal Auto Liability	Under \$5M	\$5M	to	\$15M	\$15M to \$50M	Over \$50M
Commercial Auto Liability	Under \$3M	\$3M	to	\$7M	\$7M to \$20M	Over \$20M
Workers Compensation	Under \$5M	\$5M	to	\$20M	\$20M to \$75M	Over \$75M
Commercial Multiperil	Under \$4M	\$4M	to	\$10M	\$10M to \$20M	Over \$20M
Medical Prof Liab - Occurrence	Under \$3M	\$3M	to	\$7M	\$7M to \$30M	Over \$30M
Medical Prof Liab - Claims Made	Under \$4M	\$4M	to	\$15M	\$15M to \$50M	Over \$50M
Special Liability	Under \$2M	\$2M	to	\$10M	\$10M to \$60M	Over \$60M
Other Liability - Occurrence	Under \$4M	\$4M	to	\$12M	\$12M to \$40M	Over \$40M
Other Liability - Claims Made	Under \$3M	\$3M	to	\$8M	\$8M to \$30M	Over \$30M
Products Liability - Occurrence	Under \$3M	\$3M	to	\$7M	\$7M to \$20M	Over \$20M
Products Liability - Claims Made	Under \$3M	\$3M	to	\$7M	\$7M to \$20M	Over \$20M
Property	Under \$2M	\$2M	to	\$5M	\$5M to \$17M	Over \$17M
Auto Physical Damage	Under \$2M	\$2M	to	\$5M	\$5M to \$17M	Over \$17M
Fidelity & Surety / Guaranty	Under \$2M	\$2M	to	\$5M	\$5M to \$17M	Over \$17M
Other	Under \$2M	\$2M	to	\$5M	\$5M to \$17M	Over \$17M
International	Under \$4M	\$4M	to	\$10M	\$10M to \$20M	Over \$20M
Reinsurance A	Under \$2M	\$2M	to	\$10M	\$10M to \$25M	Over \$25M
Reinsurance B	Under \$5M	\$5M	to	\$20M	\$20M to \$100M	Over \$100M
Reinsurance C	Under \$2M	\$2M	to	\$5M	\$5M to \$15M	Over \$15M
Warranty	Under \$2M	\$2M	to	\$5M	\$5M to \$17M	Over \$17M

Reserve Risk Correlation (PC)

		·				MPL	MPL	SPEC	OL	OL	PROD	PROD		PHYS							
	НО	PAL	CAL	WC	CMP	OCC	CM	LIAB	occ	CM	OCC	CM	PROP	DAM	F&S C	THER	INTL F	REIN A F	EIN B R	REIN C	WTY
НО	1.00	0.70	0.50	0.25	0.70	0.25	0.25	0.70	0.25	0.25	0.25	0.25	0.70	0.50	0.00	0.25	0.00	0.70	0.25	0.25	0.00
PAL	0.70	1.00	0.85	0.80	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.50	0.85	0.85	0.00	0.00	0.00	0.50	0.90	0.50	0.00
CAL	0.50	0.85	1.00	0.70	0.95	0.90	0.95	0.95	0.70	0.70	0.90	0.25	0.85	0.80	0.00	0.00	0.00	0.50	0.80	0.50	0.00
WC	0.25	0.80	0.70	1.00	0.90	0.90	0.90	0.70	0.95	0.95	0.85	0.50	0.80	0.70	0.50	0.00	0.00	0.00	0.95	0.50	0.00
CMP	0.70	0.85	0.95	0.90	1.00	0.95	0.95	0.90	0.85	0.85	0.90	0.50	0.90	0.80	0.25	0.00	0.00	0.50	0.90	0.50	0.00
MPL-OCC	0.25	0.85	0.90	0.90	0.95	1.00	0.95	0.85	0.90	0.85	0.90	0.25	0.85	0.80	0.25	0.00	0.00	0.50	0.90	0.50	0.00
MPL-CM	0.25	0.85	0.95	0.90	0.95	0.95	1.00	0.90	0.90	0.80	0.90	0.25	0.85	0.80	0.25	0.00	0.00	0.50	0.90	0.50	0.00
SPEC LIAB	0.70	0.85	0.95	0.70	0.90	0.85	0.90	1.00	0.50	0.50	0.85	0.25	0.90	0.80	0.00	0.00	0.00	0.70	0.70	0.50	0.00
OL-OCC	0.25	0.80	0.70	0.95	0.85	0.90	0.90	0.50	1.00	0.95	0.90	0.25	0.80	0.70	0.50	0.00	0.00	0.00	0.95	0.25	0.00
OL-CM	0.25	0.80	0.70	0.95	0.85	0.85	0.80	0.50	0.95	1.00	0.80	0.50	0.70	0.70	0.50	0.00	0.00	0.00	0.90	0.25	0.00
PROD-OCC	0.25	0.80	0.90	0.85	0.90	0.90	0.90	0.85	0.90	0.80	1.00	0.25	0.85	0.80	0.25	0.00	0.00	0.25	0.90	0.50	0.00
PROD-CM	0.25	0.50	0.25	0.50	0.50	0.25	0.25	0.25	0.25	0.50	0.25	1.00	0.25	0.25	0.25	0.00	0.00	0.00	0.50	0.00	0.00
PROP	0.70	0.85	0.85	0.80	0.90	0.85	0.85	0.90	0.80	0.70	0.85	0.25	1.00	0.90	0.25	0.00	0.00	0.70	0.50	0.25	0.00
PHYS DAM	0.50	0.85	0.80	0.70	0.80	0.80	0.80	0.80	0.70	0.70	0.80	0.25	0.90	1.00	0.25	0.00	0.00	0.25	0.50	0.25	0.00
FID & SURET	Y 0.00	0.00	0.00	0.50	0.25	0.25	0.25	0.00	0.50	0.50	0.25	0.25	0.25	0.25	1.00	0.00	0.00	0.00	0.50	0.00	0.00
OTHER	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
INTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
REIN A	0.70	0.50	0.50	0.00	0.50	0.50	0.50	0.70	0.00	0.00	0.25	0.00	0.70	0.25	0.00	0.00	0.00	1.00	0.25	0.50	0.00
REIN B	0.25	0.90	0.80	0.95	0.90	0.90	0.90	0.70	0.95	0.90	0.90	0.50	0.50	0.50	0.50	0.00	0.00	0.25	1.00	0.50	0.00
REIN C	0.25	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.25	0.25	0.50	0.00	0.25	0.25	0.00	0.00	0.00	0.50	0.50	1.00	0.00
WTY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00

**Industry Reserve Development Correlation Matrix** 

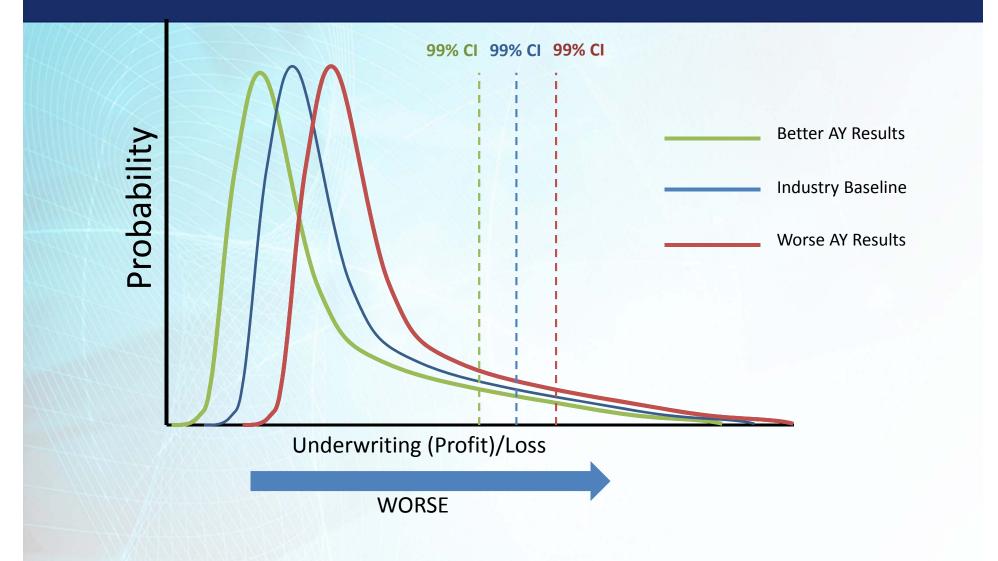


### Premium Risk (PC)

- Risk that pricing of business written next year will be inadequate
  - Potential for Underwriting Loss on one more year's worth of business
  - This is the one-year look forward in terms of adding additional exposure
  - Current year's NWP used as proxy for next year
- Premium Risk Factors
  - Uses stochastic simulation software
    - probability distributions
    - correlation matrix
- Further adjustment to required capital for Excessive Growth

### Company Adjusted Curve (PC)









**Net Premium Written Risk** Size Category

Schedule P Line	Very Small		Small		Me	dium		Large	
Homeowners/Farmowners	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Personal Auto Liability	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Commercial Auto Liability	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Workers Compensation	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Commercial Multiperil	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Medical Prof Liab - Occurrence	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Medical Prof Liab - Claims Made	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Special Liability	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Other Liability - Occurrence	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Other Liability - Claims Made	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
<b>Products Liability - Occurrence</b>	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Products Liability - Claims Made	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Property	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Auto Physical Damage	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Fidelity & Surety / Guaranty	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Other	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
International	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Reinsurance A	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Reinsurance B	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Reinsurance C	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M
Warranty	Under \$2M	\$2M	to	\$10M	\$10M	to	\$30M	Over	\$30M



### Premium Risk Correlation (PC)

	Industry Premiu	ım Correl	ation N	latrix																		
	ı	HO	PAL	CAL	WC	СМР	MPL OCC	MPL CM	SPEC LIAB	OCC OCC	OL CM	PROD OCC	PROD CM	PROP	PHYS DAM	F&S C	THER	INTL R	EIN A R	EIN B R	EIN C	WTY
	НО	1.00	0.70	0.70	0.70	0.70	0.50	0.50	0.70	0.70	0.70	0.50	0.50	0.70	0.70	0.00	0.50	0.25	0.50	0.50	0.50	0.00
	PAL	0.70	1.00	0.85	0.70	0.50	0.25	0.25	0.50	0.50	0.50	0.70	0.70	0.25	0.80	0.00	0.50	0.50	0.00	0.70	0.50	0.00
	CAL	0.70	0.85	1.00	0.95	0.90	0.90	0.90	0.80	0.90	0.85	0.85	0.80	0.50	0.85	0.00	0.50	0.25	0.25	0.90	0.80	0.00
	WC	0.70	0.70	0.95	1.00	0.85	0.85	0.85	0.80	0.95	0.90	0.90	0.90	0.50	0.80	0.00	0.70	0.25	0.00	0.85	0.70	0.00
	CMP	0.70	0.50	0.90	0.85	1.00	0.80	0.80	0.85	0.85	0.80	0.70	0.70	0.70	0.80	0.00	0.50	0.25	0.25	0.80	0.70	0.00
	MPL-OCC	0.50	0.25	0.90	0.85	0.80	1.00	0.95	0.50	0.85	0.80	0.90	0.70	0.50	0.70	0.00	0.50	0.25	0.00	0.85	0.85	0.00
	MPL-CM	0.50	0.25	0.90	0.85	0.80	0.95	1.00	0.50	0.90	0.85	0.90	0.80	0.50	0.70	0.00	0.50	0.25	0.00	0.95	0.85	0.00
	SPEC LIAB	0.70	0.50	0.80	0.80	0.85	0.50	0.50	1.00	0.70	0.70	0.50	0.50	0.85	0.85	0.00	0.50	0.50	0.25	0.70	0.70	0.00
	OL-OCC	0.70	0.50	0.90	0.95	0.85	0.85	0.90	0.70	1.00	0.95	0.90	0.85	0.50	0.80	0.00	0.70	0.50	0.00	0.90	0.85	0.00
(	OL-CM	0.70	0.50	0.85	0.90	0.80	0.80	0.85	0.70	0.95	1.00	0.85	0.80	0.50	0.85	0.00	0.70	0.25	0.00	0.85	0.85	0.00
	PROD-OCC	0.50	0.70	0.85	0.90	0.70	0.90	0.90	0.50	0.90	0.85	1.00	0.80	0.25	0.80	0.00	0.50	0.25	0.00	0.85	0.80	0.00
	PROD-CM	0.50	0.70	0.80	0.90	0.70	0.70	0.80	0.50	0.85	0.80	0.80	1.00	0.25	0.70	0.00	0.70	0.50	0.00	0.85	0.70	0.00
	PROP	0.70	0.25	0.50	0.50	0.70	0.50	0.50	0.85	0.50	0.50	0.25	0.25	1.00	0.50	0.00	0.25	0.25	0.70	0.25	0.70	0.00
	PHYS DAM	0.70	0.80	0.85	0.80	0.80	0.70	0.70	0.85	0.80	0.85	0.80	0.70	0.50	1.00	0.00	0.50	0.25	0.00	0.70	0.85	0.00
	FID & SURETY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
	OTHER	0.50	0.50	0.50	0.70	0.50	0.50	0.50	0.50	0.70	0.70	0.50	0.70	0.25	0.50	0.00	1.00	0.25	0.00	0.70	0.50	0.00
	INTL	0.25	0.50	0.25	0.25	0.25	0.25	0.25	0.50	0.50	0.25	0.25	0.50	0.25	0.25	0.00	0.25	1.00	0.00	0.25	0.25	0.00
	REIN A	0.50	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	1.00	0.00	0.25	0.00
	REIN B	0.50	0.70	0.90	0.85	0.80	0.85	0.95	0.70	0.90	0.85	0.85	0.85	0.25	0.70	0.00	0.70	0.25	0.00	1.00	0.80	0.00
	REIN C	0.50	0.50	0.80	0.70	0.70	0.85	0.85	0.70	0.85	0.85	0.80	0.70	0.70	0.85	0.00	0.50	0.25	0.25	0.80	1.00	0.00
	WTY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00



## Business Risk (PC & LH)

- Risks not reflected in balance sheet that may affect surplus
  - Contingent Liabilities
  - Non-controlled assets
  - Unfunded Pension & other post employment/ retirement benefits
  - Separate Account Assets
  - Etc.
- Risk factors determined by analyst
- Use same required capital at all VaRs

# Potential Catastrophe Loss (PC)



- Natural Catastrophe
  - Update natural catastrophe approach
    - Per Occurrence
    - Total all perils
    - Measured at various VaR levels
    - Risk added to Net Required Capital
    - Will continue stress test approach
    - Reinstatement premium and Tax adjustments remain
- Terrorism and other stress tests remain



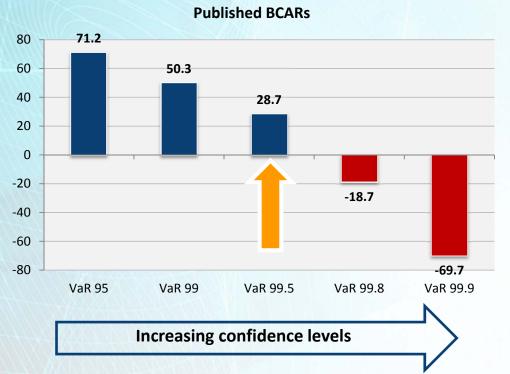
# PC SRQ

#### **Natural Catastrophe SRQ Question:**

IV. OPERATIONS SECTION (Continued)								
CATASTROPHE EXPOSURE (Cont.): (19a)								
	(Hurricane, Earthquak	e (Incl. Fire), Tomado/	Hall, Winter Storm/F	reeze, Other, or All Pe	rils Combined)			
CATASTROPHE LOSS ANALYSIS METHODOLOGY: (19b)					•			
	(Computer Model #1, 0	Computer Model #2, C	omputer Model #3, (	Other Estimate, or Mar	agement View)			
If Computer-Model, please list Catastrophe Model Vendor Name:		Model Version			lodeling performed by	,		
		-		- "	nodeling periorined by			
	timate" please explain :							
20a. QUANTIFICATION OF POTENTIAL CATASTROPHE LOSS: In the table below, please state the estimated losses to your rating unit from the catastrophe risk exposure indicated within question 19 and its impact on your rating unit's 2014 year-end policyholders' surplus. We have requested probable maximum losses on both a per occurrence basis and on an aggregate basis for loss return periods of 20, 50, 100, 200, 250, 500, and 1,000 years in order to gauge your rating unit's relative exposure. A 50 year return period coincides with a 2% annual probability that such a loss will occur; a 100 year return period represents a 1% annual probability; and so forth. This should include your company's worldwide exposure. Please supply data for all loss return periods. Responses should exclude the benefits from catastrophe bonds, industry loss warranties, and other non-traditional risk mitigation transactions.								
Indicated CAT Risk		2014 GROSS	LOSSES" (I)			2014 PRE-TAX N	NET LOSSES" (II)	
Based upon Worldwide Exposures	PER OCC	URRENCE	AGGR	EGATE"	PER OCCURRENCE AGGREGAT		GATE"	
	(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)
						TVAR or TCE***		TVAR or TCE***
	Probable		Probable		PML (Including	(Excluding	PML (excluding	(Excluding
	Maximum		Maximum		Reinstatement	Reinstatement	Reinstatement	Reinstatement
	Loss (PML)	TVAR or TCE***	Loss (PML)	TVAR or TCE***	Costs)	Costs)	Costs)	Costs)
Loss Return Period (Annual Probability)	(\$000s)	(\$0006)	(\$000s)	(\$000s)	(\$000s)	(\$000s)	(\$000s)	(\$0005)
1. 20 Years (5.0%)								
2. 50 Years (2.0%)								
3. 100 Years (1.0%)								
4. 200 Years (0.5%)								
5. 250 Years (0.4%)								
6. 500 Years (0.2%)								
7. 1,000 Years (0.1%)								
"Assume that events are equally likely to occur at any time in a 24 hour day (i.e. Random time) "Reflects the impact of multiple events in a given year or season. ""TVAR (Tail Value at Risk) or TCE (Tail Conditional Expectation)	1			•	1			



- Using the 5 BCARs below, find the highest confidence level where the BCAR is still Greater than Zero
- Then, use that confidence level in BCAR guidance table to determine initial Balance Sheet Strength assessment



Highest Confidence Level where BCAR is still positive = **99.5** 

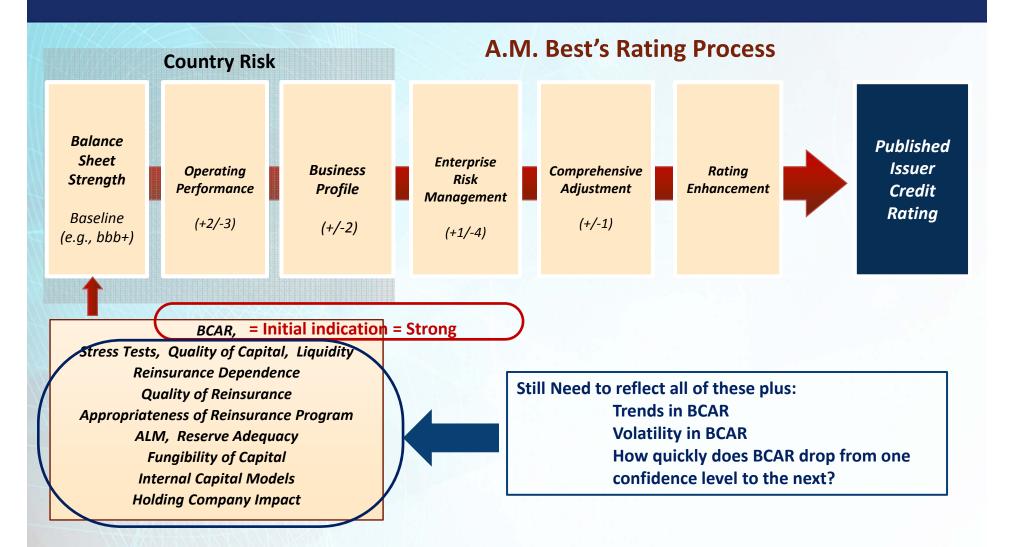


- Key for rating unit evaluation
- BCAR run at the rating unit
- Confidence level results tie in to assessment

Metric	Confidence Level (%)	BCAR	Implied Consolidated Balance Sheet Strength
VaR	99.9	Greater than zero	Strongest
VaR	99.8	<b>Greater than zero</b>	Very Strong
VaR	99.5	<b>Greater than zero</b>	Strong = Initial indication
VaR	99	<b>Greater than zero</b>	Adequate
VaR	95	<b>Greater than zero</b>	Weak
VaR	95	Less than zero	Very Weak

The key characteristics described for each assessment category are ideal scenarios and are not intended to be prescriptive.

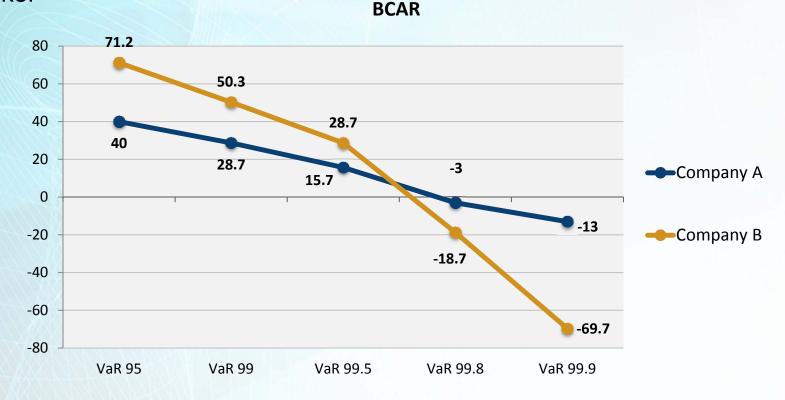




# Drop in BCAR - Analyst Views

#### **Observation:**

 Two companies pass at the 99.5 VaR but one company's scores drop much quicker

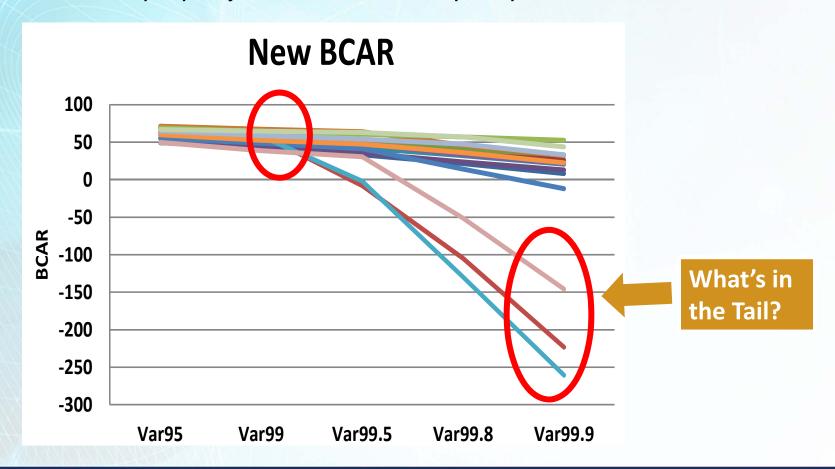


**A BEST** 

# Drop in BCAR - Analyst Views

#### **Observation:**

Concentrated property writer shows steep slope after VaR99



**A BEST** 



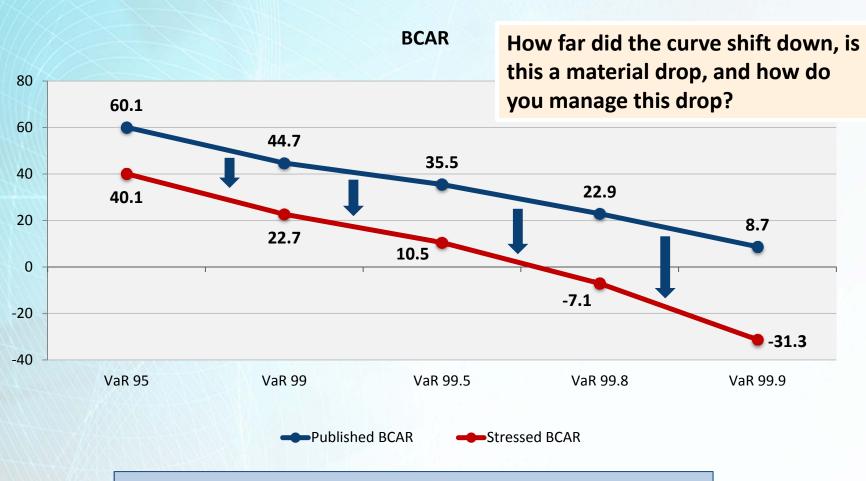
### Catastrophe Stress Test

#### If a cat loss occurs, what would the BCAR scores look like?

- 1. Reduce Available Capital
  - 1-in-100 year Net PML from Per occurrence, Total all perils
  - Reinstatement premium and tax adjustments remain
- 2. Increase Recoverables by 40% of ceded loss
  - From 1-in-100 year PML from Per occurrence, Total all perils
  - Adjust credit risk factors if needed
- 3. Increase Net loss reserves by 40% of pretax net PML
  - From 1-in-100 year PML from Per occurrence, Total all perils
- 4. See how far BCAR scores drop at all confidence levels

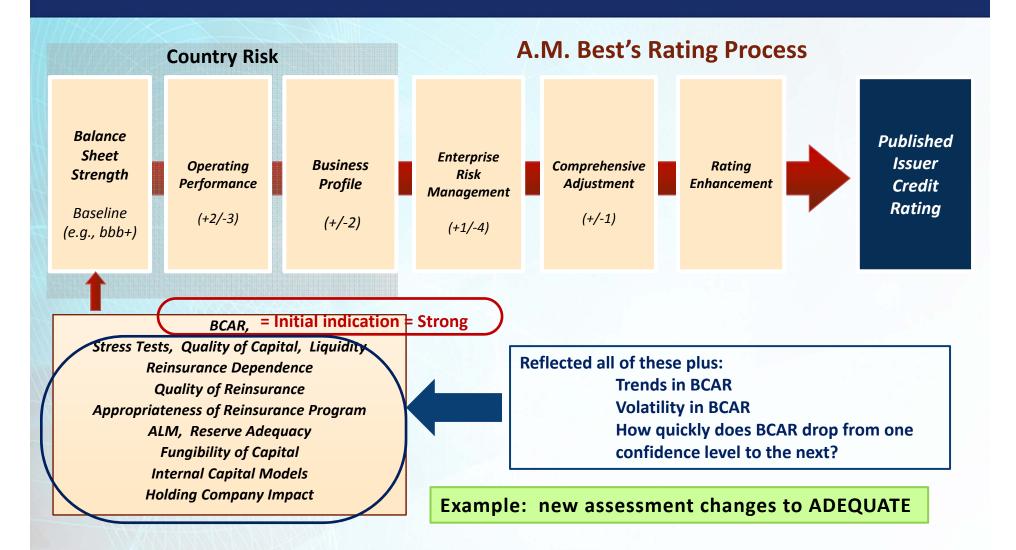


### Catastrophe Stress Test



Need to assess Financial Flexibility to determine impact.







#### **Overall Balance Sheet Strength Assessment**

**Combined Balance Sheet Assessment (Rating** Unit/Holding Company)

		Country Risk Tier					
	CRT-1	CRT-2	CRT-3	CRT-4	CRT-5		
Strongest	a+/a	a+/a	a/a-	a-/bbb+	bbb+/bbb		
Very Strong	a/a-	a/a-	a-/bbb+	bbb+/bbb	bbb/bbb-		
Strong	<b>a-</b> /bbb+	a-/bbb+	bbb+/bbb/bbb-	bbb/bbb-/bb+	bbb-/bb+/bb		
Adequate	bbb+/bbb/bbb-	bbb+/bbb/bbb-	bbb-/bb+/bb	bb/bb-	bb-/b+/b		
Weak	bb+/bb/bb-	bb+/bb/bb-	Baseline Assessment be adjusted for Operation		Sheet Factors will then siness Profile, ERM,		
Very Weak	b+ and below	b+ and below	Comprehensive adjustment, and Lift/Drag to get to the Pulssuer Credit Rating.				



### Thank You!

# Questions?

methodology.commentary@ambest.com



# Appendix

### Reserve Risk Typical Factors (PC)



#### Typical Reserve Risk Capital Factors

Size Category: Very Small								
	Confidence Level							
	<u>95</u>	<u>99</u>	<u>99.5</u>	<u>99.8</u>	<u>99.9</u>			
НО	0.320	0.492	0.560	0.651	0.718			
PAL	0.202	0.302	0.341	0.389	0.425			
CAL	0.242	0.365	0.413	0.475	0.520			
WC	0.292	0.444	0.504	0.579	0.635			
CMP	0.342	0.526	0.599	0.696	0.770			
MPL OCC	0.383	0.595	0.681	0.791	0.877			
MPL CM	0.348	0.539	0.617	0.717	0.791			
SP Liab	0.240	0.362	0.410	0.471	0.517			
OL OCC	0.379	0.587	0.671	0.778	0.862			
OL CM	0.364	0.563	0.642	0.747	0.821			
PROD OCC	0.460	0.717	0.819	0.956	1.054			
PROD CM	0.359	0.557	0.637	0.739	0.821			
Prop	0.322	0.495	0.565	0.651	0.717			
PHYS	0.226	0.339	0.383	0.437	0.477			
F&S	0.312	0.479	0.546	0.630	0.694			
OTHER	0.283	0.430	0.488	0.563	0.620			
INTL	0.342	0.525	0.599	0.693	0.770			
REIN A	0.344	0.531	0.607	0.705	0.775			
REIN B	0.423	0.660	0.755	0.879	0.971			
REIN C	0.332	0.512	0.585	0.676	0.748			
WTY	0.226	0.339	0.383	0.438	0.481			

Size Category: Small						
	C	onfidence L	.evel			
	<u>95</u>	<u>99</u>	<u>99.5</u>	<u>99.8</u>	<u>99.9</u>	
НО	0.281	0.427	0.485	0.561	0.617	
PAL	0.184	0.274	0.309	0.352	0.384	
CAL	0.215	0.321	0.363	0.416	0.455	
WC	0.244	0.366	0.414	0.474	0.517	
CMP	0.288	0.439	0.498	0.575	0.634	
MPL OCC	0.329	0.506	0.578	0.668	0.739	
MPL CM	0.294	0.450	0.513	0.593	0.652	
SP Liab	0.225	0.338	0.382	0.438	0.480	
OL OCC	0.310	0.474	0.539	0.621	0.685	
OL CM	0.321	0.492	0.559	0.647	0.710	
PROD OCC	0.414	0.639	0.728	0.846	0.930	
PROD CM	0.327	0.503	0.573	0.662	0.734	
Prop	0.280	0.425	0.484	0.556	0.610	
PHYS	0.205	0.306	0.345	0.393	0.429	
F&S	0.270	0.410	0.466	0.536	0.589	
OTHER	0.242	0.364	0.412	0.473	0.520	
INTL	0.288	0.438	0.497	0.573	0.634	
REIN A	0.299	0.457	0.521	0.603	0.661	
REIN B	0.381	0.589	0.672	0.779	0.858	
REIN C	0.303	0.464	0.529	0.609	0.673	
WTY	0.205	0.306	0.345	0.395	0.433	

### Reserve Risk Typical Factors (PC)



#### Typical Reserve Risk Capital Factors

Size Category: Medium							
Confidence Level							
	<u>95</u>	<u>99</u>	<u>99.5</u>	<u>99.8</u>	<u>99.9</u>		
НО	0.242	0.364	0.412	0.475	0.521		
PAL	0.169	0.250	0.281	0.320	0.349		
CAL	0.194	0.289	0.326	0.373	0.407		
WC	0.223	0.334	0.377	0.430	0.469		
CMP	0.239	0.360	0.406	0.467	0.513		
MPL OCC	0.299	0.456	0.520	0.599	0.661		
MPL CM	0.251	0.381	0.432	0.497	0.545		
SP Liab	0.200	0.299	0.338	0.386	0.423		
OL OCC	0.283	0.430	0.487	0.560	0.617		
OL CM	0.288	0.438	0.497	0.573	0.628		
PROD OCC	0.365	0.558	0.634	0.733	0.804		
PROD CM	0.289	0.441	0.501	0.578	0.638		
Prop	0.243	0.366	0.415	0.475	0.520		
PHYS	0.188	0.279	0.314	0.357	0.389		
F&S	0.252	0.381	0.433	0.496	0.545		
OTHER	0.206	0.307	0.346	0.396	0.434		
INTL	0.239	0.359	0.406	0.465	0.513		
REIN A	0.256	0.387	0.440	0.507	0.555		
REIN B	0.332	0.508	0.577	0.667	0.732		
REIN C	0.274	0.417	0.474	0.545	0.600		
WTY	0.188	0.279	0.314	0.358	0.392		

Size Category: Large								
	Confidence Level							
	<u>95</u>	<u>99</u>	<u>99.5</u>	<u>99.8</u>	<u>99.9</u>			
НО	0.205	0.306	0.346	0.397	0.434			
PAL	0.151	0.223	0.250	0.284	0.310			
CAL	0.178	0.264	0.297	0.339	0.370			
WC	0.207	0.308	0.347	0.395	0.431			
CMP	0.209	0.312	0.352	0.403	0.442			
MPL OCC	0.267	0.406	0.461	0.530	0.583			
MPL CM	0.211	0.318	0.360	0.413	0.451			
SP Liab	0.186	0.277	0.312	0.356	0.389			
OL OCC	0.279	0.422	0.478	0.549	0.604			
OL CM	0.262	0.396	0.448	0.515	0.563			
PROD OCC	0.325	0.493	0.559	0.645	0.706			
PROD CM	0.252	0.381	0.432	0.497	0.548			
Prop	0.207	0.308	0.348	0.397	0.434			
PHYS	0.170	0.252	0.283	0.322	0.350			
F&S	0.234	0.353	0.399	0.457	0.501			
OTHER	0.188	0.280	0.315	0.359	0.393			
INTL	0.209	0.312	0.352	0.402	0.442			
REIN A	0.218	0.326	0.369	0.424	0.463			
REIN B	0.298	0.452	0.512	0.589	0.645			
REIN C	0.246	0.372	0.422	0.484	0.531			
WTY	0.170	0.252	0.283	0.322	0.353			

### Premium Risk Typical Factors (PC)



#### **Typical Premium Risk Capital Factors**

0: 0-1		-11					
Size Category: Very Small							
Confidence Level							
	<u>95</u>	<u>99</u>	<u>99.5</u>	<u>99.8</u>	<u>99.9</u>		
НО	0.323	0.496	0.566	0.654	0.726		
PAL	0.267	0.404	0.459	0.526	0.579		
CAL	0.275	0.418	0.476	0.550	0.606		
WC	0.300	0.459	0.522	0.605	0.662		
CMP	0.314	0.481	0.549	0.636	0.700		
MPL OCC	0.349	0.543	0.619	0.723	0.793		
MPL CM	0.321	0.496	0.566	0.653	0.719		
SP Liab	0.289	0.445	0.506	0.587	0.643		
OL OCC	0.330	0.511	0.583	0.678	0.745		
OL CM	0.342	0.530	0.604	0.703	0.772		
PROD OC	0.357	0.554	0.632	0.734	0.816		
PROD CM	0.328	0.508	0.580	0.672	0.743		
Prop	0.303	0.466	0.530	0.615	0.673		
PHYS	0.239	0.361	0.409	0.470	0.518		
F&S	0.303	0.466	0.530	0.616	0.673		
OTHER	0.303	0.466	0.531	0.614	0.675		
INTL	0.314	0.481	0.549	0.637	0.696		
REIN A	0.326	0.503	0.572	0.663	0.737		
REIN B	0.326	0.505	0.577	0.667	0.743		
REIN C	0.321	0.496	0.567	0.660	0.732		
WTY	0.248	0.376	0.427	0.490	0.540		

Size Category	/: Small				
	C	onfidence L	.evel		
	<u>95</u>	<u>99</u>	<u>99.5</u>	<u>99.8</u>	<u>99.9</u>
НО	0.281	0.427	0.485	0.559	0.618
PAL	0.239	0.359	0.406	0.464	0.510
CAL	0.248	0.374	0.425	0.490	0.539
WC	0.270	0.409	0.464	0.536	0.586
CMP	0.267	0.406	0.461	0.532	0.584
MPL OCC	0.324	0.500	0.569	0.663	0.725
MPL CM	0.307	0.471	0.537	0.620	0.680
SP Liab	0.266	0.405	0.460	0.533	0.582
OL OCC	0.286	0.438	0.498	0.578	0.633
OL CM	0.311	0.477	0.543	0.630	0.691
PROD OC	0.335	0.517	0.589	0.682	0.758
PROD CM	0.315	0.485	0.553	0.639	0.705
Prop	0.266	0.404	0.459	0.530	0.579
PHYS	0.212	0.318	0.359	0.412	0.453
FS	0.266	0.404	0.459	0.531	0.579
OTHER	0.257	0.390	0.443	0.509	0.558
INT	0.267	0.406	0.461	0.533	0.581
REIN A	0.282	0.431	0.489	0.564	0.625
REIN B	0.300	0.461	0.525	0.605	0.673
REIN C	0.261	0.400	0.455	0.528	0.585
WTY	0.221	0.332	0.376	0.431	0.474

### Premium Risk Typical Factors (PC)



#### **Typical Premium Risk Capital Factors**

Size Categor	v: Medium						
Size Category: Medium  Confidence Level							
				00.0	00.0		
110	9 <u>5</u>	99 0.208	99.5	99.8	99.9		
HO	0.263	0.398	0.452	0.520	0.574		
PAL	0.210	0.314	0.354	0.404	0.443		
CAL	0.235	0.354	0.401	0.461	0.506		
WC	0.251	0.379	0.429	0.495	0.540		
CMP	0.245	0.369	0.419	0.482	0.528		
MPL OCC	0.295	0.452	0.513	0.596	0.650		
MPL CM	0.279	0.427	0.486	0.559	0.613		
SP Liab	0.242	0.367	0.416	0.480	0.523		
OL OCC	0.259	0.394	0.447	0.516	0.565		
OL CM	0.285	0.435	0.494	0.571	0.625		
PROD OC	0.321	0.493	0.562	0.649	0.720		
PROD CM	0.297	0.455	0.519	0.598	0.659		
Prop	0.246	0.373	0.423	0.487	0.531		
PHYS	0.185	0.276	0.310	0.355	0.389		
FS	0.238	0.359	0.406	0.469	0.510		
OTHER	0.229	0.345	0.390	0.447	0.489		
INT	0.245	0.369	0.419	0.483	0.525		
REIN A	0.258	0.391	0.444	0.511	0.565		
REIN B	0.274	0.420	0.478	0.549	0.610		
REIN C	0.230	0.351	0.399	0.462	0.511		
WTY	0.194	0.289	0.327	0.373	0.409		

Size Catego	ry: Large				
	C	onfidence L	.evel		
	<u>95</u>	<u>99</u>	<u>99.5</u>	<u>99.8</u>	99.9
НО	0.257	0.388	0.440	0.505	0.558
PAL	0.189	0.282	0.318	0.361	0.396
CAL	0.214	0.320	0.362	0.416	0.456
WC	0.232	0.349	0.394	0.454	0.495
CMP	0.235	0.353	0.400	0.460	0.503
MPL OCC	0.273	0.416	0.472	0.546	0.596
MPL CM	0.260	0.396	0.450	0.516	0.566
SP Liab	0.221	0.333	0.377	0.434	0.473
OL OCC	0.242	0.366	0.414	0.478	0.522
OL CM	0.247	0.375	0.424	0.489	0.534
PROD OC	0.293	0.448	0.509	0.588	0.650
PROD CM	0.279	0.426	0.485	0.558	0.614
Prop	0.237	0.358	0.406	0.467	0.509
PHYS	0.168	0.249	0.280	0.319	0.349
FS	0.220	0.330	0.373	0.430	0.467
OTHER	0.211	0.316	0.357	0.409	0.447
INT	0.234	0.353	0.400	0.461	0.501
REIN A	0.242	0.367	0.416	0.478	0.529
REIN B	0.258	0.393	0.447	0.513	0.568
REIN C	0.231	0.351	0.399	0.461	0.509
WTY	0.176	0.262	0.296	0.336	0.369

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