

Best's Capital Adequacy Ratio Model







P/C, US

Evaluate property/casualty insurers' capitalization and risk profile to capture the combined impact of financial risks associated with adverse market conditions.

Unlike company-created models, the *BCAR Model* is consistent with the methodology used by AM Best analysts to evaluate the balance sheet strength of property/casualty companies filing US statutory statements. Subscribers have immediate access to statutory data, the latest criteria procedures and changes to the BCAR calculation. Changes mandated by the NAIC are also incorporated into the model each year.

The *BCAR Model* is an ideal tool for US property/casualty insurers, reinsurers, brokerage firms, consultants, actuarial firms, asset management companies and other intermediaries with a sophisticated level of familiarity with insurance company operations and capital models.

If you're outsourcing your capital analysis to a consulting firm, the optimal way to ensure their calculations are based on current, accurate information is to confirm that they're using the *BCAR Model* as an assessment tool.

-  Use this model in planning for your organization's capital needs and to help manage regulatory capital needs.
-  Determine if an insurer's capitalization is appropriate to support various types of risk simultaneously at five different Value at Risk (VaR) levels.
-  Find out how different risks impact the balance sheet.
-  Create projections and test the impact of different scenarios, including reinsurance programs, asset valuations, business line diversification, losses and asset allocations.
-  Run multiple adjustments to any insurer's balance sheet. Change parameters and capital charges at each VaR and generate insightful reports.
-  Access preloaded statutory data for all P/C insurers.

What is Best's Capital Adequacy Ratio (BCAR)?

BCAR depicts the quantitative relationship between an insurer's balance sheet strength and its operating risks. Calculating an insurer's BCAR score requires calculating its net required capital—namely, the capital needed to support the financial risks associated with the exposure of its assets and underwriting to adverse economic and market conditions—and determining its capital available to support these risks.

$$\text{The basic formula for BCAR is } \left(\frac{\text{Available Capital} - \text{Net Required Capital}}{\text{Available Capital}} \right) \times 100$$

The BCAR model calculates an insurer's net required capital at five different confidence levels, resulting in a BCAR score for each of these levels. Since the difference between a company's available capital and its net required capital is expressed as a ratio to available capital, a BCAR score expresses the extent of the excess or shortfall as a percentage of available capital. A positive score at a particular confidence interval indicates that available capital is in excess of net required capital, whereas a negative score indicates that available capital has fallen short of net required capital.

Visit www3.ambest.com/ambv/ratingmethodology to read a full explanation of the BCAR calculation for P/C insurers filing US statutory statements.

A company's BCAR score is one component in evaluating the balance sheet strength during the overall rating process. In addition to calculating risk exposure based on current data, AM Best analysts use the model to test risk assumptions and run stress-test scenarios that project the impact of the company's potential financial performance outcomes.

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How are the BCAR scores interpreted?

BCAR scores are calculated at five VaR confidence levels: 95.0%, 99.0%, 99.5%, 99.6% and 99.8%. The following table displays the interpretation of the scores published by AM Best.

VaR Confidence Level (%)	BCAR	BCAR Assessment
99.6	> 25 at 99.6	Strongest
99.6	> 10 at 99.6 & ≤ 25 at 99.6	Very Strong
99.5	> 0 at 99.5 & ≤ 10 at 99.6	Strong
99	> 0 at 99 & ≤ 0 at 99.5	Adequate
95	> 0 at 95 & ≤ 0 at 99	Weak
95	≤ 0 at 95	Very Weak

AM Best calculates required capital at the 99.8th percentile to facilitate discussion of tail risk during the evaluation of enterprise risk management within the rating process.

What is the advantage of the different VaR confidence levels in the BCAR model?

The ability to formulate BCAR scores at different confidence levels allows the user to gain insight into a company's ability to withstand low-probability events. For example, if a company's management wants to hold enough capital to be confident that it can cover 95% of all potential outcomes, it needs to find the value on the probability distribution such that 95% of all potential outcomes are less than or equal to that value. In the following example, the size of loss where this occurs is at 23% of net premiums written (NPW).

As shown in the chart below, if the NPW amount is \$100,000, then the VaR 95 value in dollars is \$23,000 (23% of \$100,000).

(1)	(2)	(3)	(4)	(5) (1) * (4)	(6) 100.0% - (3)
Statement Amount	Metric	Confidence Level	Capital Factor	Loss Amount at Confidence Level	Exceedance Probability*
100,000	VaR	95.0%	0.23	23,000	5.0%
	VaR	99.0%	0.30	30,000	1.0%
	VaR	99.5%	0.34	34,000	0.5%
	VaR	99.6%	0.35	35,000	0.4%

*Probability that an actual observed loss will exceed the loss amount of the confidence level.

This means that 95% of all potential outcomes will be less than \$23,000 and that there is only a 5% chance that an underwriting loss of more than \$23,000 could occur, and therefore a 5% chance of insolvency (provided that the initial amount of available capital carried was at least \$23,000). If management wanted to be more conservative than a 5% chance of insolvency, then a confidence level of 99% could be chosen to set a target capital level.

What risk components are included in the analysis of net required capital in the BCAR Model product?

The US property/casualty BCAR model computes the amount of capital required to support three broad risk categories: investment risk, credit risk and underwriting risk. These three risk categories are further subdivided into eight separately analyzed risk components:

- (B1) Fixed Income Securities
- (B2) Equity Securities
- (B3) Interest Rate
- (B4) Credit
- (B5) Net Loss and LAE Reserves
- (B6) Net Premiums Written
- (B7) Business Risk
- (B8) Potential Catastrophe Losses

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What are the components of available capital?

The starting point for available capital is the financial statement of the entity or entities being evaluated. An insurer's available capital is determined by making a series of adjustments to the capital (surplus) reported in its financial statements. Available capital may be further adjusted for other items, as shown below.

- Reported Capital (Surplus)
- Equity Adjustments
 - Unearned Premiums
 - Assets
 - Loss Reserves
 - Reinsurance
- Debt Adjustments
 - Surplus Notes
 - Debt Service Requirements
- Other Adjustments
 - Future Operating Losses
 - Intangibles
 - Goodwill

What can I generate outputs for?

- BCAR Summary Showing Net Required Capital, Available Capital and BCAR Scores
- Investment Risk
- Interest Rate Risk
- Credit Risk
- Loss and Loss Adjustment Expense Reserve Risk
- Net Premiums Written Risk
- Business Risk
- Growth Factor Worksheet

What data years are available?

Adjustments can be made to 2022, 2021, 2020, 2019 and 2018 annual data.

Can I analyze GAAP data with the *BCAR Model – P/C, US*?

No. GAAP data can be analyzed using the *Best's Capital Adequacy Ratio Model - Global* product. Contact your Account Manager for details.

What is included with my purchase?

- A desktop application that gives you access to a capital model consistent with the methodology used by AM Best analysts for US P/C statutory data
- The ability to make adjustments and projections for the available capital components and risk factors at each confidence level

To request a demonstration of the *BCAR Model – P/C, US*, or for questions or pricing information, please contact your AM Best Account Manager or Business Development at (908) 439-2200, option 5, or sales@ambest.com.

The results or output created by use of the *Best's Capital Adequacy Ratio Model – P/C, US* ("Output") is for informational and internal purposes only, and such Output may not match or be consistent with the official BCAR scores that AM Best publishes for the same rating unit. The Output is not guaranteed or warranted in any respect by AM Best. *Best's Capital Adequacy Ratio Model – P/C, US* is a non-rating service product, and its purchase is not required as part of the rating process.