

# Best's Capital Adequacy Ratio Model

## Global

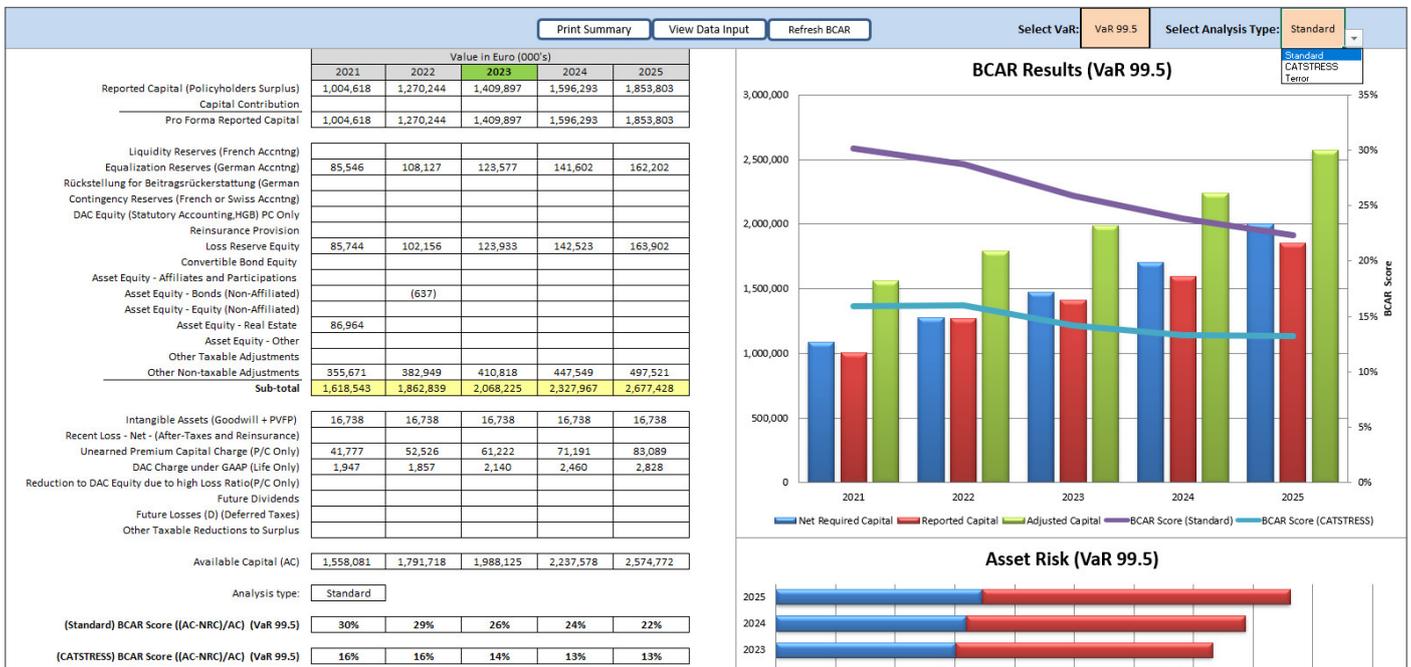
Evaluate an insurer's capitalisation and risk profile with this model and assess the combined impact of changing financial risks to support internal modelling, planning, competitive comparisons and business development.

The *BCAR Model* is an ideal tool for those working within insurers, reinsurers, brokerage firms, consultants, actuarial firms, asset management companies and ratings advisory.

Consistent with the methodology used by AM Best analysts to evaluate the balance sheet strength of insurers, the *BCAR Model* is the only way to ensure that your calculations remain consistent with the changing BCAR methodology. Subscribers have immediate access to statutory data, the latest criteria procedures and changes to the BCAR calculation.

*Best's Capital Adequacy Ratio Model - Global* is an Excel®-based tool that provides an integrated review of an insurer's underwriting, financial performance and asset leverage, allowing users to:

-  Assess the impact on the BCAR score due to changes to reinsurance programmes, asset valuations, business line diversification, losses, and asset allocation within a group.
-  Calculate results under different confidence levels (VaR Value at Risk): VaR 95.0, VaR 99.0, VaR 99.5, VaR 99.6, VaR 99.8.
-  Calculate the BCAR score for single and group insurance companies in the life and non-life sectors.
-  Run BCAR scores on any company using your own assumptions.
-  Use the interactive Summary Report (shown below) to change parameters on the fly and generate insightful and revealing reports.
-  Enter data via the easy-to-use Data Input screen.
-  Link the Data Input screen to your existing data sources.
-  Review results under different parameters: Standard, CatStress, Terror.



### ▲ Interactive Summary Report

### Your purchase includes:

- An Excel-based tool to make assumptions or adjustments to Available Capital and Net Required Capital for your company or others
- Updates—any changes to the BCAR calculation or methodology will be provided

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### 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.

The BCAR – Global model is used in the evaluation of balance sheet strength for those companies that do not file U.S. or Canadian statutory statements. As a consequence, it is used extensively for the assessment of non-US insurers.

Visit [www3.ambest.com/ambv/ratingmethodology](http://www3.ambest.com/ambv/ratingmethodology) to read a full explanation of the BCAR calculation in *Best's Methodology and Criteria – Understanding Global BCAR*.

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.

### 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).

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As shown in the chart below, if the NPW amount is EUR100,000, then the VaR 95 value is EUR23,000 (23% of EUR100,000).

(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 EUR23,000 and that there is only a 5% chance that an underwriting loss of more than EUR23,000 could occur, and therefore a 5% chance of insolvency (provided that the initial amount of available capital carried was at least EUR23,000). 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 BCAR Global 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 analysed 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

### 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
  - Hybrid Debt and 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

### Some companies have created their own BCAR models. What is the advantage of the *BCAR Model - Global*?

Unlike company-created models, the *BCAR Model* is consistent with the methodology used by AM Best analysts to evaluate the balance sheet strength of Life or Non-Life insurance companies not filing US statutory statements. Subscribers have immediate access to the latest criteria procedures and changes to the BCAR calculation.

### Who would benefit from the *BCAR Model - Global*?

Insurers, reinsurers, brokerage firms, consultants, actuarial firms, asset management companies and ratings advisory teams would benefit from AM Best's capital model. Users should have a fairly sophisticated level of familiarity with insurance company operations and capital models.

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**How many years can I analyse?**

The *BCAR Model - Global* does not contain financial data. Users can enter data via the easy-to-use data input screens. The model accommodates up to five years of data, allowing users to evaluate future capital adequacy.

**Can I analyse insurers filing US statutory statements with the *BCAR Model - Global*?**

No. US P/C insurers filing statutory statements can be analysed using the *Best's Capital Adequacy Ratio Model - P/C, US* product. Contact your Account Manager for details.

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**More information: [www.ambest.com/sales/bcarg](http://www.ambest.com/sales/bcarg)**

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or [europe.sales@ambest.com](mailto:europe.sales@ambest.com)**

NOTE: The results or output created by use of *Best's Capital Adequacy Ratio Model - Global* ("Output") is for informational and internal purposes only, and such Output may not match or be consistent with the official BCAR scores developed by AM Best Rating Services analysts for the same rating unit. The Output is not guaranteed or warranted in any respect by A.M. Best Europe - Information Services Ltd. This model is not intended for use with US or Canadian statutory data.

*Best's Capital Adequacy Ratio Model - Global* is a non-rating services product, and its purchase is not required as part of the rating process.

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