May 1, 2017

Understanding Universal BCAR

The purpose of this criteria procedure is to document the existing criteria and methodology related to A.M. Best's Universal BCAR model, which is used in the evaluation of balance sheet strength for those companies that do not file U.S. or Canadian statutory statements. The Universal BCAR model can also be used in the evaluation of balance sheet strength at the insurance holding company level, regardless of domicile or accounting standard. In addition, the model can also be used to evaluate the prospective balance sheet strength of start-up insurers based on their proposed business plans.

Introduction

The objective of A.M. Best's financial strength ratings is to provide an opinion of an insurer's financial strength and ability to meet ongoing obligations to policyholders. The assignment of an interactive rating is derived from an in-depth evaluation of a company's balance sheet strength, operating performance and business profile as compared with A.M. Best's quantitative and qualitative standards.

Balance Sheet Strength

In determining a company's ability to meet its current and ongoing obligations to policyholders, the most important area to evaluate is its balance sheet strength, since it is the foundation for policyholder security. Performance then determines how that balance sheet strength will be enhanced, maintained or eroded over time. Balance sheet strength measures the exposure of a company's capital to its operating and financial practices. An analysis of a company's underwriting, financial and asset leverage is very important in assessing its overall balance sheet strength.

Underwriting leverage is generated from current premium writings, reinsurance recoverables and loss reserves. In order to assess whether a company's underwriting leverage is prudent, a number of factors unique to the company are taken into account, including type of business written, quality and appropriateness of its reinsurance program, and adequacy of loss reserves.

Financial leverage is created through debt or debt-like instruments (including financial reinsurance) and is reviewed in conjunction with a company's underwriting leverage. An analysis of financial leverage is conducted at both the operating company and holding company levels, since debt at either level could place a call on the insurer's earnings and strain its cash flow, leading to financial instability.

Asset leverage measures the exposure of a company's capital to investment, interest rate and credit risks. The volatility and credit quality of the investment portfolio, recoverables and agents balances determine the potential impact of asset leverage on the company's balance sheet strength.

A company's underwriting, financial and asset leverage also are subjected to an evaluation by Best's Capital Adequacy Ratio (BCAR), which allows for an integrated review of these leverage areas. The universal BCAR model calculates the Net Required Capital to support the financial risks of the company associated with the exposure of assets and underwriting to adverse economic and market conditions, and compares this required capital to economic capital. Some of the stress tests within BCAR include above-normal catastrophes, a decline in equity markets and a rise in interest rates. This integrated stress evaluation permits a more discerning view of a company's balance sheet strength relative to its operating risks.

Analytical Contacts
Thomas Mount
+1 (908) 439-2200 Ext. 5155
Thomas.Mount@ambest.com

Stephen Irwin
+1 (908) 439-2200 Ext. 5454
Stephen.Irwin@ambest.com

SR-2011-M-300b

A company's BCAR result is extremely useful in evaluating its balance sheet strength, but BCAR is only one component of that analysis. In addition, balance sheet strength is only one component of the overall financial strength rating, which also includes operating performance and business profile. BCAR establishes a guideline for risk-adjusted capital to support a rating, but other factors driving expectations of future balance sheet strength drive the rating as well. All of these factors are important to the overall rating process.

Overview of BCAR

A.M. Best's capital formula uses a risk-based capital approach whereby net required capital is calculated to support three broad risk categories: investment risk, credit risk and underwriting risk. A.M. Best's capital adequacy formula also contains an adjustment for covariance, reflecting the assumed statistical independence of the individual components. A company's adjusted capital is divided by its net required capital, after the covariance adjustment, to determine its BCAR.

Investment Risk

Investment risk includes three main risk components: fixed-income securities, equities and interest rate. Capital charges are applied to different asset classes based on the risk of default, illiquidity and market-value declines in both equity and fixed-income securities. Additionally, higher capital charges are ascribed to affiliated investment holdings, real estate, below-investment-grade bonds and nonaffiliated, privately traded common and preferred shares because of the illiquid nature of the asset and/or the potential volatility of the reported value.

The levels of liquidity and volatility in a country's capital markets are an important part of A.M. Best's analysis. These risks include, but are not limited to, sharper and more frequent business cycles caused by more volatile consumption and investment, and increased uncertainty concerning access to capital. The greater the degree of market volatility, the more difficult the operating environment for insurers.

These country-specific risk factors also can have a direct impact on an insurer's risk-adjusted capital. At the company level, illiquidity and volatility will depress an asset's valuation, and in extreme scenarios, severely limit access to cash. The potential for market illiquidity and volatility to increase the risk within an insurance company's invested assets or diminish financial flexibility is captured through country-specific risk charges, based on the origin of the asset, within A.M. Best's Universal BCAR model.

In some instances, some or all of the risk associated with a particular asset may be borne by the policyholder. In those situations, the investment risk to the insurance company may be reduced.

A.M. Best's capital model incorporates an interest-rate risk component that considers the decline in market value of a company's fixed-income portfolio as a result of rising interest rates. The interest rate risk calculation will reflect the fact that companies writing life and annuity products will have an exposure to disintermediation and cash-flow mismatch risks, whereas a company writing property/casualty products will have an interest-rate risk exposure when a shock event occurs. Interest rate risk for annuity writers will vary based on the type of products offered and the source of that business.

Investment risks are typically the main drivers of a life and annuity insurer's capital requirements.

Credit Risk

Capital charges are applied to different receivable balances to reflect third-party default risk. Credit risk factors are ascribed to recoverables from all reinsurers, including affiliates. Required capital for credit risk may be modified after taking into account acceptable collateral offsets for reinsurance balances; the quality of the reinsurers that participate in the company's reinsurance program; and the company's dependence on its reinsurance program. Also included in the credit risk component are charges for premium balances receivable; accrued retrospective premiums; deposits in pools and associations; funds held by ceding insurers; and other, miscellaneous receivables.

Underwriting Risk

This category encompasses the risks associated with net loss and loss-adjustment expense reserves, net premiums written and net unearned premiums. The reserve component requires capital based on the risk inherent in a company's loss and loss-adjustment expense reserves, adjusted for A.M. Best's assessment of its reserve equity. Reserve equity is a function of the estimated reserve deficiency, the payout pattern of the reserves and the discount rate, which is currently 4% in BCAR. The net premiums written component is a forward-looking component and requires capital based on the pricing risk inherent in a company's expected book of business for the upcoming year. The unearned premium component reflects the exposure to pricing risk on premium that was written in the past but is still unearned as of the current evaluation date and can be a material exposure for long duration contracts.

Long duration property/casualty contracts are defined as contracts having terms in force for more than 13 months and for which the insurer cannot cancel or increase the premium during the life of the contract. Long duration unearned premiums will be included on the loss reserve page and other adjustments will be made in an effort to capture other risks associated with writing long duration contracts. In the case of a contractual liability policy (CLIP), where the insurer guarantees the liabilities of another entity for a fee, the underlying unearned premium that is being guaranteed will be added to the loss reserve page instead of the unearned CLIP premium.

Required capital for the underwriting risk components may be increased to reflect an additional surcharge for "excessive" exposure growth. In addition, there is credit for a well-diversified book of business, but this credit is minimized for those companies that maintain small books of many lines of business and may not necessarily have expertise in each of them. For those composite companies that write both property/casualty and life insurance, the amount of diversification credit may be increased to reflect the additional benefits from diversifying across insurance sectors.

For life and health insurers, underwriting risks are divided into mortality risks, longevity risks and morbidity risks. Mortality risks are based on volume of life insurance in force, net of reserves and reinsurance, with risk charges grading lower for higher amounts at risk. Longevity risks are present in annuities and certain types of pension plans, as plan participants are living longer than expected when payment amounts originally were determined. Morbidity risks vary by line of business and therefore warrant different charges. Generally, health care lines of business with long-tail risks (disability, long-term care) will have higher premium risk charges than shorter tail risks (medical, critical illness).

For property/casualty insurers, underwriting risk is typically the largest risk category and usually accounts for two-thirds of a company's gross required capital.

Required Capital

Collectively, the investment, credit and underwriting risk components generate more than 99% of a company's gross required capital, with the business risk component generating minimal capital requirements for off-balance-sheet items. Off-balance-sheet items include items such as noncontrolled assets, guarantees for affiliates, contingent liabilities, pension obligations and other post-employment/

Exhibit 1
Available Capital Components:

Reported Capital

Equity Adjustments:
- Unearned Premiums
- Assets
- Loss Reserves
- Reinsurance

Debt Adjustments:
- Debt/Hybrid Securities
- Debt-Service Requirements

Other Adjustments:
- Potential Catastrophe Losses (Net of Reins.)
- Future Operating Losses
- Future Dividends
- Contingent Capital
- Contingent Reserves
- Value in Force (Life Business)
- Deferred Acquisition Costs
- Goodwill
- Other Intangible Assets

retirement obligations. A company's gross required capital, which is the sum of the capital required to support all of its risk components, reflects the amount of capital needed to support all of those risks if they were to develop simultaneously. However, these individual components then are subjected to a covariance calculation within the BCAR formula to account for the assumed statistical independence of these components. This covariance adjustment essentially says that it is unlikely that all of the individual risk components will develop simultaneously, and this adjustment generally reduces a company's overall required capital.

A.M. Best recognizes the distortions caused by the "square root rule" covariance adjustment, whereby the more capital-intensive risk components are disproportionately accentuated while the less capital-intensive risk components are diminished in their relative contribution to net required capital. Nevertheless, by using other distinct capital measures, A.M. Best can counterbalance this apparent shortcoming.

Determination of Available Capital

A.M. Best makes a number of adjustments to a company's reported capital within its universal capital model to provide a more economic and comparable basis for evaluating capital adequacy. Different accounting methods and regulatory requirements across the world require numerous adjustments to a company's reported capital. Goodwill and other intangible assets are eliminated. Pre-event catastrophe reserves are removed from the loss reserves and moved into available capital on a tax-effected basis. Adjustments for any embedded value in unearned premium reserves, loss reserves and fixed-income securities are made if the company has not already reflected these in its reported capital. Further adjustments are made to capital to reflect other non-balance sheet risks, including catastrophe exposures and debt-service requirements.

A.M. Best's capital model emphasizes permanent capital and consequently will reduce a company's reported surplus for encumbered capital, which includes surplus notes and future debt-service requirements of an affiliated holding company. This reduction, in whole or in part, depends on the magnitude of, and dependence an insurance group has on, debt-like instruments and their associated repayment features.

On a qualitative basis, issues such as where the debt is held vs. where the cash is used; the existence of other sources of income to offset the cost of debt; fixed-charge coverage; and the overall level of debt relative to the organization's total capital all are considered. For example, when debt is issued at the holding company but the cash is held at the operating insurance company, even though the cash is given full credit in the BCAR analysis of the operating company, the actual rating of the operating company could be limited by the evaluation of the financial leverage and earnings coverage at the holding company.

Formula Drivers

A company's gross capital requirement within A.M. Best's capital model is generated primarily from its investment, credit and underwriting risks. A company that maintains a more aggressive investment portfolio, is heavily concentrated in one asset or sector, or is heavily dependent on pyramided capital likely will generate a lower BCAR value. Companies that have excessive exposure to third-party credit risk or are heavily dependent on reinsurance likely will generate lower BCAR scores. The amount of required capital generated from the underwriting risk components is largely a function of the company's mix of business, amount of available capital, growth in exposure, stability of loss development, profitability, loss-reserve adequacy and length of claims payout. All other things being equal, the absolute BCAR score of a company will be lower because of higher capital requirements associated with greater indicated reserve deficiencies, as well as unstable or unprofitable business.

In addition, the model can be adjusted in response to various market issues. Some examples of the issues that can impact capitalization include rate changes, the stage of the underwriting cycle, changing reinsurance products and reinsurance dependence. The ability of the model to respond to these market issues makes it a robust tool that assists in the evaluation of the company's balance sheet strength.

The basis of risk measurement for some of the key drivers of required capital in the universal BCAR model is expected policyholder deficit. A.M. Best adopted the concept of expected policyholder deficit to better calibrate the model's loss-reserve and premium-risk factors, as well as other risk factors in the model. The concept of expected policyholder deficit allows risk charges to be calibrated to a specific level of insolvency risk and also takes into consideration the expected cost, or severity, of insolvency.

BCAR Is an Absolute Measure

The universal BCAR model produces an absolute score, which is the ratio of the company's adjusted capital to its own net required capital. Given strong, stable operating performance, sound risk management, high quality capital and strong financial flexibility, **Exhibit 2** provides a reasonable guide for the BCAR levels needed to support A.M. Best's Financial Strength Ratings.

Exhibit 2
BCAR Guidelines

BCAR	Implied Balance Sheet Strength
175	A++
160	A+
145	A
130	A-
115	B++
100	B+
90	B
80	B-
70	C++
60	C+
50	C
40	C-
<40	D

Additional Stress Testing

A.M. Best also will stress a company's BCAR score for a second catastrophic event. The testing will incorporate natural catastrophes and/or man-made events such as terrorism to monitor how sensitive a company's balance sheet strength is to a second catastrophic event. For casualty writers, an estimate of a casualty shock loss may be used in the analysis of balance sheet strength. Additional stresses may be employed when insurers accumulate large amounts of higher risk investments.

Conclusion

The tools to allocate capital and understand capital strength continue to evolve. These tools often vary in theory, purpose and outcome. It is important to remember that, while they can add significant value, they are only tools. A.M. Best's proprietary universal BCAR is one of those tools that look at capital needs well above financial solvency. A.M. Best will continue to enhance BCAR going forward to improve its accuracy in measuring balance sheet and operating risk.

BCAR is important to A.M. Best's evaluation of both absolute and relative capital strength. Consistent with standards embedded within the universal BCAR model, A.M. Best would expect that well-managed and highly rated companies will maintain capitalization levels in excess of the risk-adjusted amounts indicated by the published guidelines to support their current ratings.

A.M. Best is quick to caution, however, that although BCAR is an important tool in the rating process, it isn't sufficient to serve as the sole basis of a rating assignment. BCAR, like other quantitative measures, has some limitations and doesn't necessarily work for all companies. Consequently, capital adequacy should be viewed within the overall context of the operating and strategic issues surrounding a company. Business profile and operating performance are important rating considerations in evaluating a company's long-term financial strength and viability as well as the quality of the capital that supports the BCAR result. In addition, any holding company considerations also will play a key role in evaluating the financial strength of an insurance company.

In closing, A.M. Best believes that well-managed and highly rated insurers will continue to focus on the fundamentals of building future economic value and financial stability, rather than on managing one, albeit important, component of A.M. Best's rating evaluation.

Published by A.M. Best Rating Services, Inc.

METHODOLOGY

A.M. Best Rating Services, Inc.
Oldwick, NJ
CHAIRMAN & PRESIDENT **Larry G. Mayewski**
EXECUTIVE VICE PRESIDENT **Matthew C. Mosher**
SENIOR VICE PRESIDENTS **Douglas A. Collett, Stefan W. Holzberger, James F. Snee**

WORLD HEADQUARTERS
1 Ambest Road,
Oldwick, NJ 08858
Phone: +1 908 439 2200

MEXICO CITY
Paseo de la Reforma 412,
Piso 23,
Mexico City, Mexico
Phone: +52 55 1102 2720

LONDON
12 Arthur Street, 6th Floor,
London, UK EC4R 9AB
Phone: +44 20 7626 6264

DUBAI*
Office 102, Tower 2,
Currency House, DIFC
P.O. Box 506617,
Dubai, UAE
Phone: +971 4375 2780
*Regulated by the DFSA as a Representative Office

HONG KONG
Unit 4004 Central Plaza,
18 Harbour Road,
Wanchai, Hong Kong
Phone: +852 2827 3400

SINGAPORE
6 Battery Road,
#40-02B,
Singapore
Phone: +65 6589 8400