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Rating Agency Perspectives on Insurance Company Capital

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Rating Agency Perspectives on Insurance Company Capital

A look at the impact rating agencies have on insurers' capital management

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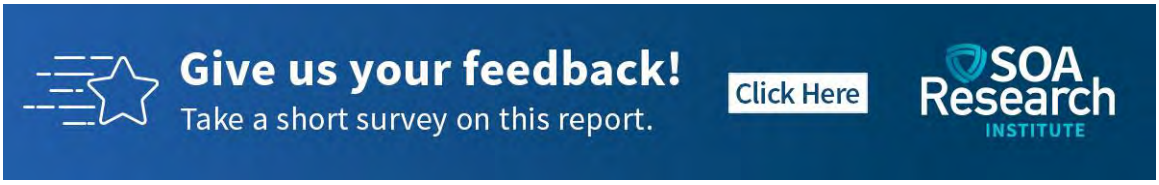

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Executive Summary

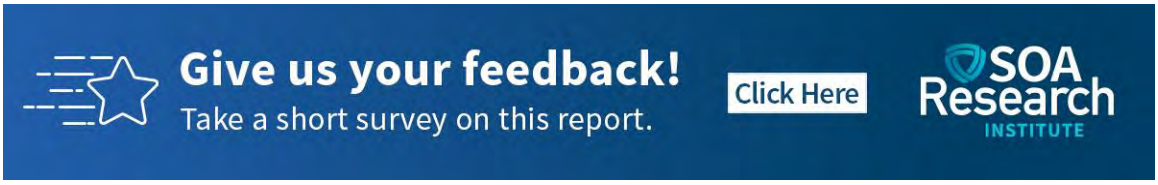
The purpose of this research paper is to aid students and practitioners with their understanding of the rating agencies as they affect the insurance industry.

The paper examines the insurance company credit ratings, including the fundamental principles of the licensed rating agencies, the rating types, the rating process and the rating scales that four major rating agencies use. We then discuss from different perspectives the impact that rating agencies have on the insurance industry.

Each rating agency has its own publicly available ratings methodology and criteria that guide its rating process. The rating criteria incorporate a host of quantitative and qualitative measures to evaluate the risks to an insurance company's financial health as well as economic and regulatory factors. While the detailed rating criteria vary by agency, all agencies consider similar factors: balance sheet/financial strength, operating performance/profitability, business profile/franchise value, enterprise risk management, capital structure/leverage, legal/regulatory/operating environment, ownership, group considerations, forecasting and stress testing, and additional aspects.

Each rating agency has its own quantitative tool to evaluate and differentiate an insurer's capital adequacy. The capital adequacy tools measure the available capital relative to the required capital. The available capital measures the funds available over the near term that can absorb losses. The required capital measures the amount of capital to meet potential losses over a certain time horizon and at a defined confidence level. The capital adequacy modeling establishes the quantitative starting point for the rating agencies' analysis of an insurer's balance sheet strength. Together with the analysis of other factors and considerations discussed earlier, a committee determines a rating outcome, and the insurer fact-checks it for accuracy before making it available to the public.

We hope this paper provides an introduction to the ways that rating agencies impact the insurance industry. We provide resources in the appendixes to explore the topic further.



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Section 1: Introduction

The Society of Actuaries (SOA) Individual Life & Annuity Curriculum Committee, the Corporate Finance & Enterprise Risk Management Curriculum Committee and the Financial Reporting Section sponsored this paper. We produced this paper in response to the SOA Research Institute's request to investigate and document the approach rating agencies take to assess insurance companies. We analyzed the key rating methodologies and criteria published by rating agencies and interviewed a range of experts from rating agency analysts to senior management in insurance companies, as well as equity analysts of insurance companies. The paper also combines our practical experience with rating agency capital considerations across the insurance industry. We hope this paper provides the SOA Fellowship candidates and the practitioners unfamiliar with the topic with an understanding of the rating agencies and how they affect the insurance industry.

1.1 RATING AGENCIES

A credit rating agency assesses an entity, or a specific security or money market instrument, and provides a forward-looking, independent opinion on the entity or issuer's ability to meet its financial obligations in full.

The precursors of today's rating agencies were first established in the wake of the financial crisis in the mid-1800s, where they rated merchants' ability to pay their debts and consolidated those ratings in published guides. Today, rating agencies continue to serve a similar purpose: to provide transparent and relatively simple and comparable terminologies to describe the different levels of credit worthiness across industries. The rating agencies provide macroeconomic insights, sector thought leadership and outlooks on a regular basis.

As of December 2022, the U.S. Securities and Exchange Commission (SEC) has designated 10 organizations as Nationally Recognized Statistical Rating Organizations (NRSROs). The SEC monitors the activities and conducts examinations of registered NRSROs to assess and promote compliance with statutory and SEC requirements. They are listed below alphabetically:

- A.M. Best Rating Services, Inc.
- DBRS, Inc.
- Demotech, Inc.
- Egan-Jones Ratings Co.
- Fitch Ratings, Inc.
- HR Ratings de Mexico, S.A. de C.V.
- Japan Credit Rating Agency, Ltd.
- Kroll Bond Rating Agency, Inc.
- Moody's Investors Service, Inc.
- S&P Global Ratings

In this paper, we focus on AM Best, Fitch Ratings, Moody's and S&P. The top 25 U.S. life insurers, U.S. property and casualty ("P&C") insurers and global reinsurers[1] are rated by at least one of these four rating agencies, with a majority of insurers and reinsurers rated by multiple rating agencies. See Appendix A for further details.

[1] Top 25 insurers as published by AM Best's Monthly Review magazine. They are ranked by 2021 admitted assets for U.S. life insurers, by 2021 net premiums written for U.S. P&C insurers, and by 2021 gross premiums written for global reinsurers.

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1.2 RATING TYPES

Within the insurance industry, rating agencies assess different types of credit ratings depending on the intended use. There are generally two types of ratings relevant to insurance companies:

- A financial strength rating (FSR) analyzes an insurer's ability to meet ongoing policyholder claims and contract obligations, which is dependent on the availability of sufficient assets as well as an appropriate amount of liquid assets.

- An issuer (or issue) credit rating (ICR) looks beyond the claim-paying ability and reviews the relative future credit risk of an entity or specific obligations as they come due, considering the obligation's seniority. It can be issued on either a long- or short-term basis.

Both FSR and ICR follow the rating process and are generally communicated on the same set of rating scales.[2] However, one key distinction is that the FSR is analyzed from policyholders' perspective, and policyholders rank higher than investors in the event of default. That means an insurer's FSR is usually notched higher than that of an ICR. Notching is the practice whereby credit rating agencies to give different credit ratings to the particular obligations or debts of a single issuing entity or closely related entities. Moreover, rating distinctions among obligations are made based on differences in their security or obligation priority.

Rating agencies evaluate both single legal entity insurance companies and insurance groups with diversified insurance and noninsurance operations. Rating agencies may assign a rating for the individual insurer following a combined assessment of the single entity along with adjustments for holding and other noninsurance companies, or they may determine a rating for the largest insurer within the group or a consolidated rating for the insurance group.

1.3 RATING PROCESS

Each rating agency has its own published rating methodology and criteria that guides its rating process. The SEC mandates that agencies review methodology and criteria every 12 months. This process generally includes back-testing on rating drivers, model calibration, ratio guidelines and independent internal model validation. By ensuring regular updates, rating agencies strive to maintain their rating processes' accuracy and relevance.

Insurers and issuers initiate a rating request to the rating agencies. The rating agency then assigns a team of dedicated analysts to each rated entity. The rating analysts meet with the insurer initially and then on a regular basis, usually quarterly, to review factors that may affect the insurer's rating. These meetings are a key source of additional quantitative and qualitative information, where management may discuss areas of responsibility, provide clarification on information previously shared and disclose significant management actions.

Larger insurers may have a team devoted to managing relationships with the rating agencies. It is generally a cross-functional team comprised of investor relations, capital management, financial planning & analysis, and actuarial and finance professionals. Smaller insurers may manage the relationships with a more limited team, but the team is comprised of similar expertise. The core team then liaises with other internal departments as and when needed.

The rating process requires an interactive exchange of qualitative and quantitative information with the insurance company. For U.S. companies, U.S. statutory filings are the main source of quantitative inputs, along with U.S.

[2] The exception is AM Best, which uses two different scales for FSR and ICR.

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generally accepted accounting principles (GAAP) financial statements and disclosures and other investor materials. This information is further supplemented with information from a comprehensive annual survey. Through these surveys, the rating agency collects additional data covering all major parts of an insurer's operation, including strategy, distribution, underwriting, reserving, investments, claims, enterprise risk management (ERM), and overall financial results and projections. Some examples of the data that the rating agency collects are financial details, investment portfolio details, business mix, reserving, interim management reports, internal capital models, internal risk assessments, annual business plans and ownership structure. Where the rating agency is unable to obtain the necessary information to analyze the insurer, it can take a rating action based on reasonable assumptions or withdraw from the review.

The rating analysts perform the assessments and propose a rating along with the rating inputs to an internal ratings committee. The rating committee in turn reviews and votes on the proposal. The committee approach ensures rating consistency across different insurers and maintains the integrity of the rating process.

Rating agencies generally provide the insurer with a pre-publication rationale for its credit rating for fact-checking and accuracy purposes. After the initial publication of ratings, rating analysts continue to monitor the financial and nonfinancial results and significant developments for each rated entity as well as market and industry trends to evaluate their potential impact on ratings. Ratings are generally updated on a semi-annual or annual basis and when significant developments or events occur.

1.4 RATING SCALES

The rating scales that rating agencies use, although they may appear similar, differ by agency. A rating scale is generally presented by letters from A to D (or beyond) with A being the highest quality. There may be additional modifiers — pluses or minuses — appended to a rating to denote the relative status within major rating categories. The rating agencies also publish an outlook to indicate a potential rating trend over a short- to medium-term horizon. The outlook can be "positive," "negative," "stable" or "developing." The outlook takes into consideration drivers affecting the insurer's balance sheet and management as well as wider issues affecting the broader sector, industry and beyond. The outlook may or may not result in a subsequent change in the rating.

Table 1
RATING COMPARISON ACROSS MAJOR AGENCIES

AM Best FSR (15 categories)	AM Best ICR (22 categories)	Fitch Ratings (22 categories)	Moody's (21 categories)	S&P Global (22 categories)
A++, A+	aaa, aa+, aa, aa-	AAA, AA+, AA, AA-	Aaa, Aa1, Aa2, Aa3	AAA, AA+, AA, AA-
A, A-	a+, a, a-	A+, A, A-	A1, A2, A3	A+, A, A-
B++, B+	bbb+, bbb, bbb-	BBB+, BBB, BBB-	Baa1, Baa2, Baa3	BBB+, BBB, BBB-
B, B-	bb+, bb, bb-	BB+, BB, BB-	Ba1, Ba2, Ba3	BB+, BB, BB-
C++, C+	b+, b, b-	B+, B, B-	B1, B2, B3	B+, B, B-
C, C-	ccc+, ccc, ccc-, cc	CCC+, CCC, CCC-, CC	Caa1, Caa2, Caa3, Ca	CCC+, CCC, CCC-, CC
D	c	C	C	C
E	d, e	D		D
F	f			

Sources: Guide to Best's Financial Strength Ratings – (FSR), Guide to Best's Issuer Credit Ratings – (ICR), Fitch Ratings Rating Definitions, Moody's Rating Symbols and Definitions, and S&P Global Intro to Credit Ratings.

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1.5 INSURANCE RATING APPLICATIONS

Insurers are dependent on customers' trust that they will fulfill their obligations when a claim occurs. Credit ratings play a role in earning customers' trust and helping the market evaluate and assess credit risk, pricing of debt securities and the functioning of capital markets.

Consumers, brokers or institutions looking to purchase insurance coverage use FSRs to evaluate the insurer's financial strength and ability to pay out on its obligations. Therefore, a good credit rating is important for insurers in attracting new customers and demonstrating continued claim-paying-ability to their current customers. A minimum credit rating may be required for an insurer to access certain markets and/or distribution channels to sell its products.

Insurance company investors and lenders use credit ratings as one of the metrics to analyze an insurer's financial strength and stability when making investment, lending and pricing decisions. For an insurer, having a certain rating enables access to the capital markets for raising different types of capital, and the rating level generally impacts the cost of capital and the amount of capital an insurance company can raise.

Ratings are generally used when companies evaluate their counterparty credit risk exposures in risk management and capital frameworks. One common instance of this for insurance companies is in reinsurance transactions. Therefore, insurance and reinsurance companies pay close attention to credit ratings when selecting their partners for reinsurance transactions. It is common in reinsurance transactions for the reinsurer to have higher collateral requirements for a lower rating level.

Insurers also use credit ratings in managing their investment portfolio and setting their investment strategy. Credit ratings are used as one input in their security selection process and as a part of their internal and external reporting on the investment portfolio. Moreover, an insurer's investment portfolio asset allocations and/or investment limitations generally have internally defined, regulatory and/or reinsurance agreement limits based on credit ratings. In these contexts, the ICRs of an insurer's investment portfolio holdings are one measure of the level of credit risk and investment risk that the insurer is taking on.

Credit ratings are widely used in insurance and other financial services regulations. For example, the U.S. insurance regulations, several regulatory capital regimes worldwide and economic capital framework often define investment classifications and capital charges for investments and counterparties using credit ratings.

Insurance companies generally communicate target ratings and/or target capital levels to their constituents. Therefore, insurance companies generally consider potential ratings impacts when evaluating strategic business decisions and as part of their business planning process. The rating agency capital metrics, other financial strength metrics and qualitative rating considerations often form part of management discussions.

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Section 2: Insurance Rating Methodology

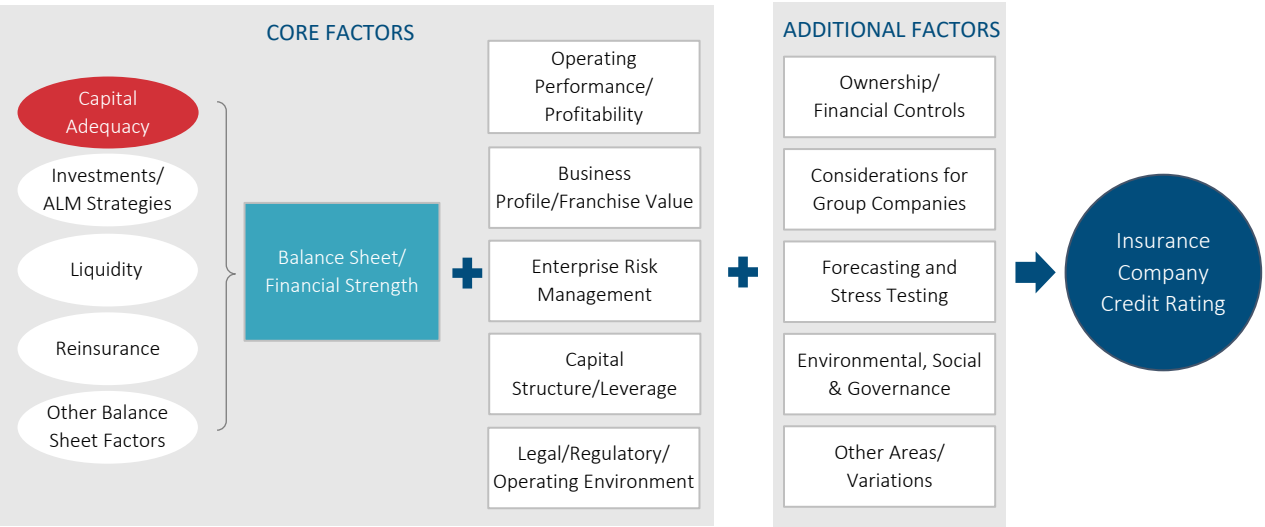
Each rating agency has its own publicly available rating methodology and criteria that guide its rating process. For most rating agencies, the ratings criteria cover the insurance industry, with some unique considerations applied to different industry sub-sectors. For example, investment strategy and asset-liability management have higher importance for life insurers, whereas reserve adequacy and catastrophe exposure have higher importance for P&C insurers.

The rating criteria incorporate a host of quantitative and qualitative measures to evaluate the risks to an insurer's financial health as well as economic and regulatory factors. The analysis includes comparisons to peers, industry standards and proprietary benchmarks as well as an assessment of operating plans, ERM, corporate governance, and the implicit or explicit support of a parent or affiliates. Rating agencies also set thresholds for key financial metrics[3] for the major rating categories.

Generally, any exceptions to rating methodology or explicit thresholds and factors and considerations that can lead to rating upgrade or downgrade are explicitly drawn out in the rating report.

While the detailed rating criteria varies by agency, all agencies consider similar factors. This section summarizes the general factors that all rating agencies use, split between core factors and additional factors. Find a link to each rating agency's rating criteria[4] in Appendix B.

Figure 1
GENERAL RATING FACTORS



2.1 CORE RATING FACTORS

1. **Balance Sheet/Financial Strength**
   Balance sheet strength is the foundation of financial security and is critical in determining an insurer's ability to meet its current and ongoing obligations. Every rating agency reviews an insurer's balance sheet in detail through its own lens.

[3] Appendix B lists common metrics that the rating agencies use. Note the exact calculation varies by regulatory regime and by rating agency.
[4] As of June 1, 2023

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Capital Adequacy
All four major rating agencies leverage their own proprietary capital models to quantify an insurer's capital position. In general, these models analyze the amount of capital required to absorb losses with the amount of funds available to the insurer to cover the losses. The rating agency capital model for U.S. insurers are generally based on the U.S. statutory regime.

For determining the required capital, some rating agencies' capital models utilize a factor-based approach with prescribed capital charges and diversification factors, while other rating agencies leverage a stochastic economic model to analyze the estimated distribution of the insurer's net asset value.

The rating agencies may also analyze the insurer's capital position after a stress event occurs. These stress events would be tailored to the insurer's largest exposures but may include economic, biometric, policyholder behavior, catastrophe and off-balance-sheet exposure stresses.

Investment and ALM strategies
Asset allocation, liquidity, credit quality and diversification of asset portfolio as well as future investment strategies are evaluated to gauge the risk of changes in interest rates, credit spreads, default risk, nonpayment risk and prepayment risk. Asset-liability management (ALM), cash flow mismatches between assets and liabilities, and duration matching are also key areas of focus. Typical metrics that rating agencies use include asset allocation, credit rating allocation, high-risk asset ratio, intangibles ratio and the calculation of interest rate duration mismatch.

Rating agencies review an insurer's investment guidelines to identify the insurer's risk appetite as well as any diversification or concentration of risks. Rating agencies may also review how reliant the insurer is on investment returns to complement underwriting performance.

Rating agencies may make adjustments to asset values, positive or negative, to ensure consistency of valuation across the regulatory regimes and domicile jurisdictions. For example, adjustments for differences in the reported market value and book value of assets.

Liquidity
Liquidity measures an insurer's ability to meet anticipated and unanticipated short-, medium- and long-term obligations to policyholders and other creditors. A high amount of available liquidity helps an insurer to meet unexpected needs without the untimely sale of invested assets, which could result in substantial losses due to temporary market conditions. Typical liquidity metrics include liquid assets ratio and operating cash flow ratios.

Reinsurance
Reinsurance can play an important role in risk mitigation and can provide an insurer with varying degrees of financial stability. A reinsurance program should be appropriate relative to the insurer's risk appetite, underwriting risks and exposures. A diversified reinsurance program with strong counterparties could protect an insurer from adverse events. In addition, an insurer's reliance on reinsurance to achieve its business objectives is also considered in this evaluation.

Other balance sheet factors
Moreover, the rating agencies consider additional factors in analyzing capital adequacy. Additional considerations may include reserve adequacy, contingent assets and liabilities, uncertainty in actuarial and economic assumptions, and sensitivity to assumptions.

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2. Operating Performance/Profitability

An insurer's operating performance is a leading indicator of future balance sheet strength and long-term financial stability. An insurer's profitability contributes to its ability to fulfill policy and financial obligations, generate adequate internal capital, and maintain access to capital markets on favorable terms. Rating agencies review insurers' earnings to evaluate the source of profits and trends in profitability. An insurer with strong performance over time will generate sufficient earnings to maintain a healthy level of risk-adjusted capital and is more likely to execute its business strategy and optimize stakeholder value. Key earnings drivers for insurers' operating performance are generally investment performance, underwriting performance and expenses.

Investment performance

Premiums paid to the insurer are invested to earn a risk-adjusted return, and the net investment income represents a significant portion of an insurer's operating earnings. A rating analyst reviews an insurer's investment returns in the context of both absolute and risk-adjusted returns, considering the riskiness of the insurer's portfolio. Key metrics for investment performance include net yield on invested assets, total return and net interest margin.

Underwriting performance

The underwriting performance of an insurer is the profitability of its insurance operations before taking investment performance into account. Rating agencies review an insurer's underwriting profitability, sustainability and volatility over time. Business mixes and trends in new business premiums are also some of the aspects that rating agencies focus on. A diverse insurer is more likely to benefit from greater business stability and resilience overtime and in adverse conditions.

A rating agency's analysis will include the regulatory reporting basis, financial reporting basis as well as insurers' management views and forecasts. Key underwriting performance metrics include the loss ratio, expense ratio and combined ratio for P&C insurers. For life insurers, additional new-business profitability and operating metrics may not be disclosed publicly; rather, they are discussed in the rating meetings.

The overall key operating metrics that rating agencies analyze include return on assets; revenue; capital and surplus; and/or equity, Sharpe Ratio of return on capital and operating cash flow ratio.

3. Business Profile/Franchise Value

The business profile is a qualitative component of the evaluation. An insurer's business profile affects current and future operating performance and, in turn, its long-term financial strength. Business profile is influenced by the risk inherent in the insurer's market position, competition, distribution channels, pricing sophistication and capabilities.

Rating agencies also focus on the type of products the insurer offers. Rating agencies view products with minimal guaranteed risks, products that can share experience with policyholders or niche products with few competitors as examples of strong risk profiles.

Defensible and sustainable competitive advantages are important factors in assessing the outlook of an insurer's financial strength. Relevant factors to support the competitive analysis include product creditworthiness, product risk, quality of management, relative market share ratio (relative to industry average) and diversity of distribution.

4. ERM

Effective ERM signals the predictability of cashflows and future performance. ERM analysis is based on an understanding of an insurer's risk management framework and risk management capability relative to its risk

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profile. Companies with complex business and risk profiles need to have a robust and comprehensive ERM program. Components of ERM programs include risk culture and governance, risk management and controls, risk identification and reporting, stress testing, risk appetite and tolerance.

Rating agencies evaluate an insurer's ability to identify and quantify risks, set risk appetites and tolerances in accordance with the corporate objectives, and execute necessary risk management actions. A weak or nonexistent ERM framework can contribute to significant financial distress when insurers do not understand their key risks, which can lead to a failure to maintain adequate protection against stresses and shocks. On the other hand, insurers with a robust ERM program are better equipped to identify, react to, build and preserve balance sheet strength and bolster operating performance over the long term.

5. Capital Structure/Leverage

   The types of capital — for example, debt, equity, hybrid or contingent — also play an important role in determining an insurer's FSR. Debt interest payments and maturity payments are fixed obligations and may strain an insurer's cashflow when unexpected adverse scenarios occur. On the other hand, dividends and retention of capital are at management's discretion for common equity and therefore allow greater capital management flexibility in adverse scenarios. An insurer may utilize other types of capital, such as preferred stock and hybrids, and those are evaluated for inclusion in available capital according to the specifics of the capital instruments. General aspects that rating agencies consider include the permanency of an insurer's capital, the terms and conditions of securities issued, the capital's subordination and the capital's maturity schedule.

   To evaluate the level of debt in the capital structure, rating agencies use a financial leverage ratio that compares the level of debt to the level of total available capital. To supplement its assessment of financial leverage, rating agencies also review other metrics such as an insurer's operating leverage, asset leverage, and liability leverage. In evaluating an insurer's ability to service its financial obligations, rating agencies consider several coverage ratios, including fixed charge coverage and cash flow coverage.

6. Legal/Regulatory/Operating Environment

   This includes any relevant considerations from economic, social, judicial, industry and institutional perspectives. This can also include regulatory change not directly linked to the economy and macro risks affecting the country the insurer is operating in and the insurance market as a whole.

2.2 ADDITIONAL FACTORS

In addition to the core factors, rating agencies also consider additional supporting factors that may have influence on the rating.

1. Ownership/Financial Controls

   This can include considerations for explicit or implicit support from a parent or affiliate company, any change in such support, or any change in an owner's or affiliate company's strategic direction or financial fortunes. This also includes considerations for mutual insurers compared to shareholders.

   In case of a sovereign parent, rating agencies also analyze the creditworthiness of government owners, considering credit rating, financial strength and market-based default probabilities.

   There may be specific considerations that apply to startup insurers and run-off insurers.

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2. Consideration for Group Companies

Each rating agency uses a different approach when dealing with multi-entity insurance groups. It may perform the rating analysis at the consolidated group level and/or at an individual entity level. For insurers that are a part of a broader insurance group, rating agencies may consider additional features in the rating process. This may include the entity's contribution to the group's performance, its importance to the group's strategy and profile, the support it gives or receives, and the likelihood of future support to and from other entities in the group. Generally, the lead entity will have the strongest profile because it has a material downstream impact on the operations of other members of the group.

Rating agencies review and analyze any holding companies and non-insurance operations within the insurance group based on discussions with management and public information to assess whether their activities could reasonably be expected to place a call on the insurer's capital or expose the insurer to material risks.

3. Forecasting and Stress Testing

Forecasting involves developing or reviewing projected financials and a more general review of the expectations and judgment surrounding future trends. Additional ad hoc stress testing can be used to identify any near- to intermediate-term vulnerability to specific risks and therefore has an impact on a rating agency's decision. An insurer's stress testing program should be robust and comprehensive enough for its level of complexity and should encompass all the critical risks beyond basic regulatory requirements. Stress testing should also be actionable and accompanied by contingency plans mitigating stress scenarios. With these objectives in mind, rating analysts evaluate the appropriateness of an insurer's internal stress testing activities to complement the risk-management assessment.

4. Environmental, Social & Governance (ESG) Considerations

All four rating agencies consider the insurer's exposures to ESG factors. Some considerations are embedded within another factor's analysis. For example, evaluation of potential strategic and reputational risks from investment portfolios is part of the balance sheet review; analysis of social risk factors such as increasing longevity trend is considered as part of the legal/regulatory/operating environment factor; and governance risk stemming from insurer's ownership structure is reviewed as a part of the ownership/financial control factor. Additional ESG risks that the rating agencies review may include exposures to carbon transition risk, the increasing trend of changes in customer preferences, or technology risks from cyber and personal data issues.

5. Other Areas/Variations

This can include comprehensive adjustments for areas that the standard process does not cover, comparisons to similar companies or an adjustment of the published criteria to reflect the risks to a specific entity or transaction. Such adjustments will be disclosed in the communication to the insurer and the public.

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Section 3: Insurance Capital Model Methodology

Each rating agency has its own quantitative tool to evaluate and differentiate an insurer's capital adequacy. Some insurers maintain their own version of the rating agencies' capital models for management reporting, forecasting, and to understand how management actions may impact their capital adequacy assessment.

The rating agency models were developed to accommodate global enterprises. Hence, they utilize various accounting bases depending on the regime(s) where the organization operates, including U.S. statutory, GAAP and IFRS. AM Best, Fitch Ratings and S&P currently have U.S.-specific models given the unique considerations associated with U.S. statutory accounting. Variation in global accounting standards presents challenges in the rating analysis. For non-U.S.-centric companies, rating agencies generally take a global approach, considering the local regulatory regime and the GAAP accounting basis. Rating agencies generally note any regional exceptions in their opinions.

The capital modeling establishes the quantitative starting point for the rating agencies' analysis of an insurer's balance sheet strength. It is important to note the capital modeling itself does not directly tie to a rating outcome because the additional considerations discussed in the previous section also influence the assessment. The capital modeling consists of two major components: required capital and available capital.

Rating analysts may supplement the capital adequacy ratio calculation with sensitivity analysis. The sensitivity calculations can quantify the capital required to support future business plans, the impact of pro-forma transactions or the impact of changes to assumptions on the capital position. Rating analysts can also reflect other changes, such as business mix and investment portfolio. The extent of sensitivity analysis performed on an insurer's capitalization varies on an individual basis.

3.1 RATING AGENCY CAPITAL MODELS

AM BEST

AM Best's primary quantitative tool used in evaluating an insurer's balance sheet strength is the Best's Capital Adequacy Ratio (BCAR). It measures the required capital from the inherent risks in an insurer's investment and insurance operations relative to its available capital. The analysis also focuses on the stability of the insurer's BCAR over time. A relatively stable BCAR overtime is viewed more favorably than a BCAR with a pattern of volatility. The BCAR formula is summarized below:

$$BCAR = \frac{(Available\ Capital - Net\ Required\ Capital)}{Available\ Capital} \times 100$$

The BCAR model calculates an insurer's net required capital at different confidence levels and assigns a BCAR score at each of these levels. The BCAR assessment can vary from "Strongest" to "Very Weak" and is determined by comparing an insurer's BCAR from each specified confidence level to a reference guideline table (see Table 2).

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Table 2
AM BEST BCAR ASSESSMENTS

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

Source: Best's Credit Rating Methodology, Nov. 13, 2020

Net Required Capital Components

For U.S. and Canadian Life and Health insurers, these are the risk categories included in the BCAR model.

- Investment Risk (C1-Non-Equity and C1-Equity): This is calculated by applying capital charges to both equity and fixed-income securities based on asset classes and confidence levels that are commensurate with rating categories (if applicable). The nonequity category also includes capital charges for reinsurance counterparty credit default risk.
- Underwriting Risk (C2 Mortality / Morbidity): This reflects the risk to changes in mortality and morbidity rates. The capital charges are based on the excess mortality claims relative to expectations for life insurers and the pricing and reserving risk inherent in mix of business for health insurers.
- Interest rate risk (C3-Interest Rate and C3-VA Market): This captures the interest rate risk for fixed annuities and life insurance and market risk for variable annuities. The capital charges vary by product type and surrender protection. There are additional charges for asset/liability mismatches. The C3-VA Market risk captures required capital for variable annuities with guarantees.
- Business risk (C4): This reflects business risk based on direct life and health premium and separate account assets. There are also capital charges for unfunded pension or other post-employment obligations, contingent commitments and noncontrolled assets.
- Diversification: AM Best utilizes a square root rule covariance calculation that recognizes the assumed statistical independence of risks associated with nonequity assets and liabilities, risks associated with equities and variable annuity guarantee liabilities, and risks associated with underwriting. The business risk does not receive diversification.

$$Net\ Required\ Capital = \sqrt{(C1\text{-}Non\ Eq + C3\text{-}Int)^2 + (C1\text{-}Eq + C3\text{-}Mkt)^2 + (C2)^2} + C4$$

- BCAR analyses the net required capital at different confidence levels using the Value at Risk (VaR) metric at the 95th percentile, the 99th percentile, the 99.5th percentile and the 99.6th percentile. The prescribed risk charges vary for the different percentiles.
- AM Best also calculates required capital at the 99.8th percentile to facilitate discussions of tail risk as part of the wider ERM process.

Available Capital

The starting point of the available capital calculation is an insurer's financial statements. For U.S. and Canadian Life and Health insurers, this is typically determined on the U.S. Statutory or Canadian Life-1 financial statement basis. A series of further adjustments, positive or negative, may be made to allow for a more economic and consistent view of capital available across different regulatory jurisdictions and across insurers.

AM Best's Proposed Changes

On Feb. 28, 2023, AM Best requested comments on proposed updates to Best's Credit Rating Methodology (BCRM) and Available Capital and Holding Company Analysis. There are no changes to the core components of the analytical

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process — balance sheet strength, operating performance, business profile and enterprise risk management — which remain the key pillars of the analysis. The proposed changes are primarily related to the notching used to derive the long-term issuer credit rating of an insurance holding company. The comment period concluded on April 28, 2023. AM Best expects that less than 5% of its published ratings will be affected.

FITCH RATINGS

For U.S. life insurers, Fitch Ratings' primary model is the factor-based Prism model. The model calculates a Prism score at various stress levels ranging from "Extremely Strong" to "Weak." The Prism Score is defined as the most severe stress level at which an insurer's available capital exceeds its target capital.

$$Prism\ Score = \frac{Available\ Capital\ (AC)}{Target\ Capital\ (TC)}$$

Target Capital

The Prism model develops risk factors by product types rather than risk drivers. These product charges serve as the first component of a Prism score. Product factors encompass both liability risks and asset risks, with asset risks based on an assumed portfolio that is reasonably matched to the corresponding product.

For each product, TC consists of four elements:

- Product charges: These are a set of static, noncompany-specific risk factors that Fitch Ratings determines to reflect the risks inherent in the insurance products. TC related to product is calculated by multiplying statutory reserves for each product type with the associated risk charge. All product charges are applied to statutory reserves as the exposure base.
- Diversification benefit (reduction to TC): Fitch Ratings uses predefined and product-specific correlation matrices for each stress level. This reflects that product charges will perform differently under various scenarios. For example, increased mortality is a detriment to life insurance products but has an offsetting effect on income-paying annuity products or ancillary health products such as disability, critical illness and long-term care insurance.
- Portfolio scaling adjustment: This is used to reflect an insurer's actual asset portfolio risk in TC. The model recognizes the difference between the riskiness of the asset portfolio embedded in the risk factors and the insurer's actual asset portfolio. This adjustment is company-specific and may increase or decrease the TC, given that an insurer's portfolio may vary significantly from the asset portfolio embedded in the product risk factors.
- Operational risk: This is currently an increase of 10% of TC across all categories. However, Fitch Ratings may update the methodology as it further develops its research.

Available Capital

AC is defined as the cash equivalent funds that are readily available under adverse insurance or economic conditions. AC begins with U.S. statutory capital and surplus and applies varying degrees of adjustments or haircuts for certain accounting entries.

MOODY'S

Moody's is the only agency of the four rating agencies that publishes a set of rating factor weighting guidance within its rating methodology. The weights for each factor present an approximation of their importance for rating decisions, but note actual importance may vary substantially. For the Capital Adequacy assessment, Moody's incorporates a number of sources, which may include existing regulatory models, outputs derived from insurers' own capital models or Moody's proprietary model called Moody's Capital Tool (MCT).

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MCT is used to analyze the capital adequacy of both P&C and life insurers. MCT is a stochastic simulation tool that generates a large number of loss scenarios for the typical risks that insurers face. MCT then estimates the distribution of changes in the insurer's net asset value (NAV) over a one-year time horizon, thereby providing a basis for analyzing the capital required to fully absorb losses at a specified probability in that distribution.

MCT provides two types of output:

- Specific quantile of the change-in-NAV distribution, compared with the insurer's economic level of available capital.
- Drivers of the change in NAV at the chosen quantile by risk category and by line of business, before and after diversification.

MCT uses a set of economic and insurance scenarios generated by Moody's Analytics Real-World Scenario Generator and a set of proxy functions that are used to estimate the change in assets and insurance liabilities in all scenarios.

MCT calculates the allocation of required capital by business line and risk category. The key risks in MCT are risks related to interest rates, credit spreads, credit rating migrations, defaults and nonpayment, equities, real estate, foreign exchange, mortality, lapses, P&C reserving, P&C underwriting, reinsurance defaults and natural catastrophes.

Life and Non-Life Insurance Risks
For each life insurance product modeled, a proxy function is used to estimate the change in the difference between the value of liabilities associated with the product and the value of the typical assets backing those liabilities. These proxy functions are not company specific but reflect the average product sold in a given market. The proxy functions are built from Moody's Analytics AXIS™ actuarial system for North American life products and ad hoc cash flow models for most life products in Europe, the Middle East and Asia and Asia-Pacific.

For non-life insurers, MCT models underwriting risk, reserving risks and catastrophe risks consider both market-specific components and some of the company-specific risks and diversifications.

Asset risks
MCT incorporates an insurer's actual asset mix and simulates the difference between the insurer's actual asset allocation and the typical asset allocation used in assessing the risk by product groups.

S&P

S&P considers the variation in accounting standards, regulatory regimes and legal entity structures across the regions to which it provides ratings. The primary assessment is generally based on financial statements produced in accordance with GAAP. However, S&P would use local regulatory basis financial statements (e.g., U.S. statutory) if there are no GAAP financial statements available, or if the local regulatory basis financial statements provide greater depth and breadth of financial information. Moreover, for companies with international subsidiaries or affiliates, S&P may also produce analysis on a consolidated group basis using GAAP financials to capture the risks outside of the U.S. statutory framework.

S&P's capital adequacy model is a factor-based capital model. It seeks to determine the amount of capital in excess of reserves that an insurance company needs to cover losses from disparate risks over the expected life of its portfolio. The results indicate the amount of capital corresponding to varying confidence intervals that S&P considers commensurate with a given rating category.

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S&P compares total adjusted capital (TAC) to risk-based capital requirement (RBC)

The four confidence levels (or stress scenarios) S&P applies to calibrate the prescribed risk factors for each individual risk are 97.2nd percentile (moderate stress), 99.4th percentile (substantial stress), 99.7th percentile (severe stress) and 99.9th percentile (extreme stress). Each confidence level establishes a degree of certainty that is commensurate with the rating: 97.2% for BBB, 99.4% for A, 99.7% for AA and 99.9% for AAA. The calibration of the RBC requirements represents the potential volatility in risk drivers over a one-year period, measured using a VaR approach.

RBC

- Asset-related risks such as credit default risk and equity volatility risk. S&P applies defined factors to asset values as the calculations for all major sources of credit and equity risks. The calibration of the factors is based on S&P's own market research.
- Liability-related risks are split between non-life and life risks. Non-life includes underwriting, reserve and premium risks. Life risks include mortality; longevity; and life reserve risks such as expense, lapse and operational risk. These risk factors are then applied to the appropriate exposure base to calculate the capital requirements for each confidence level.
- ALM mismatch factor: S&P developed factors to consider ALM mismatch risk, systemic spread volatility risk, and guarantees and options. ALM risk factors are applied to the liabilities.
- VA guarantees: Additional capital charges apply for variable annuities where some fixed or indexed guaranteed living or death benefits exists on underlying equity funds.
- Diversification: Predefined matrices are used to allow for diversification among risks.

TAC

TAC is the measure S&P uses to define the capital available to meet a company's capital requirements. It is calculated using a globally consistent methodology. To determine TAC, S&P adjusts common shareholders' equity (or policyholders' surplus) for differences in valuation assumptions for assets and liabilities, including for different accounting standards. S&P makes these adjustments to reflect a near-term view on the realization of assets available to absorb losses.

S&P's Proposed Changes

On May 9, 2023, S&P published proposed changes to its insurer capital adequacy methodology and assumptions along with an updated capital model, which supersedes its December 2021 proposal. Interested market participants could provide written comments by July 14, 2023, and S&P will then consider the feedback and publish final criteria. Once finalized, S&P plans to issue a list of issuers with potential rating changes (under criteria observation list).

S&P proposes a single global model flexible for different accounting standards and a single set of charges for each risk with geographic adjustments where warranted. S&P revised the TAC calculation to reduce complexity and align with proposed changes to S&P's measure of an insurer's RBC requirements. For calculating RBC requirements, S&P is proposing to increase the confidence levels used to calibrate risk charges with explicit benefits of risk diversification through updated correlation assumptions and additional risk pairings. Moreover, S&P is using more recent data and experience in determining the updated capital charges for most risks. In addition, S&P is proposing to update the assignment of asset ratings, interest rate risk methodology and other adjustments on RBC requirements. See the References section for further details.

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3.2 AVAILABLE CAPITAL

Each of the four rating agency capital models utilizes a version of available capital. The available capital measures the capital available over the near term that can absorb losses. The available capital is calculated based on financial statement reported shareholders' equity, with adjustments to provide a more appropriate basis for evaluating capital adequacy. In general, the financial statement basis used is U.S. statutory for U.S. centric life insurers and GAAP or IFRS for global organizations.

The adjustments to reported capital and surplus are typically on a post-tax basis and depend on the financial statement basis, operating jurisdiction of the insurer and type of business (life or P&C), among other circumstances. Limits are generally imposed on each of the adjustments for fungibility, significance and other considerations, while a limit on the total amount of adjustments may also be applied. Below we summarize the common adjustments that the four rating agencies use and deploy across all types of insurers (life, health, P&C, reinsurance).

1. Equity/surplus adjustments.
    a. Assets not reported at market value: Where investments are not marked to market on the balance sheet or when assets and liabilities are not valued internally consistent in terms of the market or book value, an adjustment may be made for the difference between market value and book value of certain assets. Unrealized loss positions are reviewed further on an individual basis.
    b. Reserve adjustments:
        i. Reported reserves may be adjusted to reflect (partial) removal of prudential margins, to remove equalization and catastrophe reserves, to remove or add discounting of certain types of reserves, or to reflect the rating agency's view on reserve deficits or surpluses.
        ii. Asset valuation reserve (AVR): For U.S. companies, the reported AVR is added back to U.S. statutory capital and surplus.
        iii. Negative reserves may be non-admitted.
        iv. Unearned premium reserve: A positive available capital adjustment is made for accounting regimes that do not allow for deferred acquisition costs in its accounting of unearned premiums. The unearned premium adjustment may be reduced by discounting or include a risk charge to reflect uncertainty.
        v. Dividends payable: In some cases, a positive available capital adjustment is made for a portion of next year's expected policyholder dividends paid.
    c. Goodwill and intangibles: Generally, goodwill and intangibles, including value of business acquired, are removed from available capital because they are not loss absorbing. A significant level of intangible assets is viewed as being of lower quality. Partial credit for a subset of these assets may be given if there is strong evidence there is a readily monetizable value.
    d. Policyholder capital: Credit, subject to limits, may be given for policyholder capital that is available to support losses and/or where some of the benefits of the surplus accrue to shareholders.
    e. Value of in-Force (VIF): Partial positive credit may be provided for value of long-term business on the insurer's books. The VIF should be determined using a widely recognized approach, for example, as the present value of future profits arising from the difference between market-consistent embedded value basis and the local regulatory basis. This should be independently reviewed. DAC may be used in lieu of VIF under certain circumstances.
    f. Deferred acquisition costs (DAC): Haircuts may be applied to DAC balances depending on the type of business and the treatment of VIF above.
    g. Investments in affiliates: Adjustments may be made for equity minority interests, investments in unconsolidated entities and investments in own shares.

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2. Debt adjustments.
    a. Hybrid securities: Hybrid securities such as preferred stock, surplus notes, convertible securities, subordinated debt and trust-preferred securities that have characteristics of common equity and are available to pay policyholder claims may receive credit up to a certain limit. The treatment, characteristics for qualification and limits are specific to the rating agency.
    b. Nontraditional capital instruments: Insurers use nontraditional capital instruments such as contingent capital facilities, insurance-linked securities, letters of credit and other off balance sheet transactions to enhance financial flexibility. The rating agency generally analyzes in detail these types of securities/structures on a case-by-case basis, with credit, subject to limits provided under certain conditions.

3. Other adjustments.
    a. Off-balance sheet: Adjustments are made for off-balance sheet items and exposures, such as unrealized gains/loss on investments, pension deficits and surpluses, and life value of in-force.
    b. Dividends: An adjustment is made for proposed shareholder dividends that are not reflected in the financial statements.
    c. Future operating losses: An adjustment may be made if current year operating losses, adjusted for one-time or nonrecurring items, are expected to continue.
    d. Interest maintenance reserve (IMR) amortization: For insurers rated using U.S. statutory financial statements, a credit is provided for the following year's IMR amortization.
    e. Deferred tax assets (DTA): Adjustments may be made to remove or limit the amount of DTAs, depending on the timing and uncertainty in recoverability.
    f. Fair value of own debt: For an insurer's debt reported at fair value, an adjustment may be made to remove gains due to deterioration in the insurer's own credit risk.
    g. Pensions and post-retirement benefits: Surpluses may be removed, and deficits are generally deducted from equity.
    h. Analyst adjustments: Rating agency analysts may make adjustments for an insurer's specific circumstances and conditions, such as any prescribed or permitted practices.

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Appendix A: Sample Insurer Financial Strength Ratings as of June 1, 2023

The tables below summarize the insurance financial strength ratings of the top 25 life insurers, P&C insurers and reinsurers from AM Best's 2022 Monthly Review. Ratings were extracted on June 1, 2023, from rating agency websites and company websites. The rankings[5] are based on 2021 admitted assets for life insurers, 2021 net premiums written for P&C insurers and 2021 gross premiums written for reinsurers.

Table 34

INDUSTRY: LIFE (RANKED BY 2021 ADMITTED ASSETS, BY GROUP)

#	Company	AM Best	Fitch Ratings	Moody's	S&P
1	The Prudential Insurance Company of America	A+	AA-	Aa3	AA-
2	Metropolitan Life Insurance Company	A+	AA-	Aa3	AA-
3	New York Life Insurance Company	A++	AAA	Aaa	AA+
4	Massachusetts Mutual Life Insurance Company	A++	AA+	Aa3	AA+
5	TIAA-CREF Life Insurance Company	A++	AAA	Aa1	AA+
6	American General Life Insurance Company (Corebridge Financial)[6]	A	A+	A2	A+
7	The Northwestern Mutual Life Insurance Company	A++	AAA	Aaa	AA+
8	The Lincoln National Life Insurance Company	A	A+	A1	A+
9	Jackson National Life Insurance Company	A	A	A2	A
10	John Hancock Life Insurance Company (Manulife Financial)[5]	A+	AA-	A2	AA-
11	Equitable Financial Life Insurance Company	A	Not Rated (NR)	A1	A+
12	Principal Life Insurance Company	A+	AA-	A1	A+
13	Transamerica Life Insurance Company	A	NR	A1	A+
14	Nationwide Life Insurance Company	A+	NR	A1	A+
15	Brighthouse Life Insurance Company	A	A	A3	A+
16	Pacific Life Insurance Company	A+	AA-	Aa3	AA-
17	Empower Annuity Insurance Company (Great-West Life)[5]	A+	AA	Aa3	AA-
18	Allianz Life Insurance Company of North America	A+	NR	A1	AA
19	Athene Annuity and Life Company	A	A+	A1	A+
20	Voya Retirement Insurance and Annuity Company	NR	A	A2	A+
21	Talcott Resolution Life Insurance Company	B++	NR	Baa2	BBB+
22	RiverSource Life Insurance Company (Ameriprise Financial)[5]	A+	NR	Aa3	A+
23	Commonwealth Annuity and Life Insurance Company (Global Atlantic Financial)[5]	A	A	A2	A-
24	Thrivent Financial for Lutherans	A++	NR	Aa2	AA+
25	Midland National Life Insurance Company (Sammons Financial Group)[5]	A+	A+	NR	A+

[5] The rankings are based on AM Best's Monthly Review magazine published in July and September 2022: https://bestsreview.ambest.com/edition/2022/September/index.html#page=44 and https://bestsreview.ambest.com/edition/2022/july/docs/BestsReviewJuly2022.pdf?refresh=1671221087484.

[6] The lead operating subsidiary of the group is listed. The group name or the holding company name is in parentheses.

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Table 5

INDUSTRY: P&C (RANKED BY 2021 NET PREMIUMS WRITTEN)

#	Company	AM Best	Fitch Ratings	Moody's	S&P
1	State Farm Mutual Automobile Insurance Company	A++	NR	NR	AA
2	National Indemnity Company (Berkshire Hathaway Inc.)[5]	A++	AA+	Aa1	AA+
3	Progressive Direct Insurance Company	A+	AA	Aa2	AA
4	Allstate Insurance Company	A+	A	Aa3	AA-
5	Liberty Mutual Insurance Company	A	NR	A2	A
6	Travelers Casualty and Surety Company	A++	AA	Aa2	AA
7	United Services Automobile Association	A++	NR	Aaa	AA+
8	ACE American Insurance Company (Chubb Limited)[5]	A++	AA	Aa3	AA
9	Nationwide Mutual Insurance Company	A+	NR	A1	A+
10	Farmers Insurance Exchange	A	NR	A3	A
11	AIG Property Casualty Company	A	A+	A2	A+
12	American Family Mutual Insurance Company	A	NR	A1	A-
13	Hartford Fire Insurance Company	A+	NR	A1	A+
14	Crum & Forster Insurance Company (Fairfax Financial Holdings Limited)[5]	A	NR	NR	A
15	Auto-Owners Insurance Company	A++	NR	NR	NR
16	Tokio Marine & Nichido Fire Insurance Co.	A++	AA-	Aa3	A+
17	Berkley Insurance Company	A+	A+	A1	A+
18	Erie Insurance Exchange	A+	NR	NR	NR
19	American Casualty Company of Reading (CNA Financial Corporation)[5]	A	A+	A2	A+
20	Cincinnati Insurance Company	A+	A+	A1	A+
21	Factory Mutual Insurance Company	A+	AA	NR	A+
22	Great American Insurance Company	A+	NR	A1	A+
23	Markel Insurance Company	A	A+	A2	A
24	Zurich American Insurance Company	A+	NR	NR	AA
25	The Hanover Insurance Company (The Hanover Insurance Group)[5]	A	NR	A2	A

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Table 6

INDUSTRY: REINSURANCE (RANKED BY 2021 GROSS PREMIUMS WRITTEN)

#	Company	AM Best	Fitch Ratings	Moody's	S&P
1	Munich Reinsurance Company	A+	AA	Aa3	AA-
2	Swiss Re Ltd.	A+	A-*[7]	Aa3	AA-
3	Hannover Rück SE	A+	AA-	NR	AA-
4	Canada Life Reinsurance Company	A+	AA	Aa3	AA
5	SCOR SE	A	A	A1	A+
6	Berkshire Hathaway Life Insurance Company of Nebraska (Berkshire Hathaway Inc.)	A++	NR	NR	AA+
7	Lloyd's	A	AA-	NR	A+
8	China Reinsurance (Group) Corporation	A	NR	NR	A
9	RGA Reinsurance Company (Reinsurance Group of America, Inc.)	A+	A	A1	AA-
10	Everest Reinsurance Company	A+	NR	A1	A+
11	PartnerRe Ltd.	A+	A*	A1	A-*
12	RenaissanceRe Holdings Ltd.	A+	A*	NR	A-*
13	Korean Reinsurance Company	A	NR	NR	A
14	Transatlantic Reinsurance Company	A++	NR	Aa2	AA+
15	AXA XL Reinsurance Ltd	A+	NR	NR	AA-
16	Arch Reinsurance Ltd. (Arch Capital Group Ltd.)	A+	AA-	A2	A+
17	Mitsui Sumitomo Insurance Co., Ltd	A+	A	A1	A+
18	Endurance Assurance Corporation (Sompo International Holdings, Ltd.)	A+	NR	A1	A+
19	MAPFRE RE, Compañía de Reaseguros S.A.	A	NR	NR	A+
20	Assicurazioni Generali SpA	A	A	A3	NR
21	R+V Versicherung AG	NR	AA	NR	A+
22	Validus Reinsurance, Ltd.	A	NR	NR	A+
23	The Toa Reinsurance Company, Limited	A	NR	NR	A
24	Odyssey Reinsurance Company	A	NR	A2	A
25	AXIS Capital Holdings Limited	A	NR	NR	A+

[7] Ratings end with * are S&P's ICR or Fitch Ratings' Issuer Default Rating. They serve as an alternative for companies where financial strength ratings are not available.

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Appendix B: Metrics

This list captures some of the key financial metrics rating agencies use as part of the rating process. A high-level definition is included to illustrate the type of calculation, noting the exact definition varies by regulatory regime, and by rating agency.

Table 6

KEY FINANCIAL METRICS RATING AGENCIES USE

Category	Metric	Definition
Financial Performance	Return on assets	Net income / average assets
	Return on capital and surplus	Net income / average capital and surplus
	Return on equity	Net income / average equity
	Return on revenue	Net income / total revenue
	Sharpe ratio of return on capital	Return on capital / standard deviation of return on capital
	Combined ratio	(Incurred losses + expenses) / earned premium
	Expense ratio	Expenses / earned premium
	Loss ratio	Incurred losses / earned premium
	Operating ratio	(Investment Income) / earned premium
Leverage and Capitalization	Asset leverage	Total assets / equity
	Cash flow coverage	Operating cash flow / debt
	Financial leverage	Debt / (debt + equity)
	Fixed charge coverage	Earnings before tax / fixed charges before tax
	Liability leverage	total insurance liabilities / equity capital
Investments and Liquidity	High-risk asset ratio	High risk assets / equity
	Liquid assets ratio	Liquid assets / liabilities
	Net yield on invested assets	(Investment income - investment expense) / net invested assets
Other	Intangibles ratio	(Intangibles + value of business acquired or VIF) / equity
	Net interest margin	(Interest received - interest paid) / total interest-generating assets
	Operating cash flow ratio	Cash flow from operations / current liabilities

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Glossary

Term	Definition/Meaning
AC	available capital
ALM	asset-liability management
AM Best	A.M. Best Rating Services, Inc
AVR	asset valuation reserve
BCAR	Best's capital adequacy ratio
Confidence Interval	A range of values so defined that there is a specified probability that the value of a parameter lies within it
Confidence Level	The probability that the value of a parameter falls within a specified range of values
DAC	deferred acquisition costs
DTA	deferred tax assets
EMEA	Europe, the Middle East and Africa
ERM	enterprise risk management
ESG	environmental, social and governance
Fitch Ratings	Fitch Ratings, Inc.
FP&A	financial planning & analysis
FSR	financial strength rating
GAAP	generally accepted accounting principles
ICR	issuer (or issue) credit rating
IFRS	international financial reporting standards
IMR	interest maintenance reserve
MCEV	market consistent embedded value
MCT	Moody's Capital Tool
Moody's	Moody's Investors Service, Inc.
NAIC	National Association of Insurance Commissioners
NAV	net asset value
NRSRO	nationally recognized statistical rating organizations
P&C	property and casualty
PV	present value
RBC	Risk-Based Capital
S&P	S&P Global Ratings
SEC	U.S. Securities and Exchange Commission
SOA	Society of Actuaries Research Institute
TAC	total adjusted capital
TC	target capital
UPR	unearned premium reserve
VA	variable annuities
VaR	value at risk
VIF	value of inforce
VOBA	value of business acquired

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The references are copyrighted material, and trademarked by each rating agency. The websites were accessed as of June 1, 2023. These are information as of this date.

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