# PIU

## Rating agency methodology & Solvency II

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# Agenda

Section 1

# Ratings in Solvency II



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# Credit Default Charge In Solvency II : Loss Given Default

$$\text{Counterparty Default Risk} = \text{'Loss-given-default'} \times \text{'Probability of default'}$$

| Where: | |
|---|---|
| Probability of default | Representing the 1 in 200 years chance that the reinsurer will default |
| Loss-given-default | Representing the exposure that the cedant will have to the reinsurer after entering the reinsurance agreement. |

## The Loss Given Default

The LGD for Risk Mitigating Contracts (incl. reinsurance arrangements) should be evaluated in the SII framework according to the following formula:

$$LGD = \max(0; 50\% (\text{Recoverables} + 50\%\text{RM}) - \text{F.Collateral})$$



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# Credit Default Charge In Solvency II : Probability of Default

- In Europe it is very difficult for an insurer to operate without a rating. In Solvency II, a reinsurer's rating is used to calculate the Solvency Capital Requirement (SCR) charge for credit default risk. The credit default risk charge formula is based on probability of default, and this calculation is driven by the reinsurer's rating.
- To be recognised for Solvency II purposes, ratings must be assigned by rating agencies nominated by the European Securities and Markets Authority (ESMA). The ratings from these agencies are standardised as Credit Quality Steps:
- The table below presents mapping of ratings from the four main rating agencies that rate insurance entities into Credit Quality Steps:

| Credit Quality Step | A.M. Best | Fitch | S&P | Moody's |
|---|---|---|---|---|
| 1 | A++ or A+ | AAA to AA- | | Aaa to Aa3 |
| 2 | A or A- | A+ to A- | | A1 to A3 |
| 3 | B++ or B+ | BBB+ to BBB- | | Baa1 to Baa3 |
| 4 | B or B- | BB+ to BB- | | Ba1 to Ba3 |
| 5 | C++ or C+ | B+ to B- | | B1 to B3 |
| 6 | C, C- , D, E, F, S | CCC+ and below | | Caa1 and below |

# Credit Default Charge In Solvency II : Probability of Default

## Solvency II reinsurers

- If a reinsurer is rated by a nominated rating agency, its *single name exposure* (exposures to undertakings which belong to the same corporate group shall be treated as a single name exposure) is calculated as follows:

| Credit Quality Step | Rated Reinsurer's Probability of Default |
|---|---|
| 0 | 0.002% |
| 1 | 0.01% |
| 2 | 0.05% |
| 3 | 0.24% |
| 4 | 1.20% |
| 5 | 4.20% |
| 6 | 4.20% |

- If a reinsurer does not have a rating from a nominated rating agency, but that reinsurer meets its Minimum Capital Requirement in Solvency II, the probability of default is calculated using its solvency ratio, as follows:

| Solvency ratio | Rated Reinsurer's Probability of Default |
|---|---|
| 196% | 0.01% |
| 175% | 0.05% |
| 150% | 0.10% |
| 125% | 0.20% |
| 122% | 0.24% |
| 100% | 0.50% |
| 95% | 1.20% |
| 75% | 4.20% |

## Non-Solvency II reinsurers

- If the reinsurer is domiciled in a country whose solvency regime has equivalence status, and the reinsurer complies with the local solvency requirements but does not have a rating from a nominated rating agency, its probability of default is 0.50%.

- Any other reinsurer's probability of default is 4.20%.



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Section 2

# Introduction to Ratings



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# Why do Insurers Seek Ratings?

## Write more business

- Access to underlying business and new markets
- Some agents and policyholders only use “A” rated carriers
- May impact the availability and cost of reinsurance

## Raise more capital

- May impact both demand for publicly-issued debt as well as its terms and conditions
- May facilitate the ability to raise capital or debt and reduce the cost of capital or debt

## Have a competitive advantage

- Favorable rating promotes their financial strength – many Insurance companies advertise this fact

## Manage perception and investor behaviors

- An upgrade may positively influence the stock price
- A downgrade may result in a significant stock price reduction

Debt Ratings

Issuer Credit Ratings

Financial Strength Ratings

❖ Minimum Financial Strength Ratings are:
A+ for a long tail business and
A- for short tail business



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# Financial Strength Rating Scales

| AM Best | Moody's | Fitch | S&P |
|---|---|---|---|
| A++ | Aaa | AAA | AAA |
| A++ | Aa1 | AA+ | AA+ |
| A+ | Aa2 | AA | AA |
| A+ | Aa3 | AA- | AA- |
| A | A1 | A+ | A+ |
| A | A2 | A | A |
| A- | A3 | A- | A- |
| B++ | Baa1 | BBB+ | BBB+ |
| B++ | Baa2 | BBB | BBB |
| B+ | Baa3 | BBB- | BBB- |
| B | Ba1 | BB+ | BB+ |
| B | Ba2 | BB | BB |
| B- | Ba3 | BB- | BB- |
| C++ | B1 | B+ | B+ |
| C++ | B2 | B | B |
| C+ | B3 | B- | B- |
| C | Caa1 | CCC+ | CCC+ |
| C | Caa2 | CCC | CCC |
| C- | Caa3 | CCC- | CCC- |
| C- | Ca | CC | CC |
| D | C | C | CC |
| E | | | R |
| F | | | |

**Below Investment Grade**



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# Rating Agency Comparisons

| | Standard & Poor's | AM Best | Fitch | Moody's |
|---|---|---|---|---|
| **Company Profile** | Large National / Multinational Firms | Entire US Insurance Industry + Some International | High Profile Companies, Med malpractice focus | Large National / Multinational Firms |
| **International Focus** | Significant | Emerging | Significant | Significant |
| **Primary Users** | Capital Markets / Investors | Producers / Policyholders | Capital Markets / Investors | Capital Markets / Investors |
| **Analysis** | Sustainable Earnings, Quantitative & Qualitative | More Historical, Quantitative & Qualitative | Quantitative & Qualitative | Quantitative (Scorecard Approach) & Qualitative |
| **Debt Ratings** | #1 in the World | Some | In the Top 3 | In the Top 3 |

Section 3

# Rating Agency Methodologies



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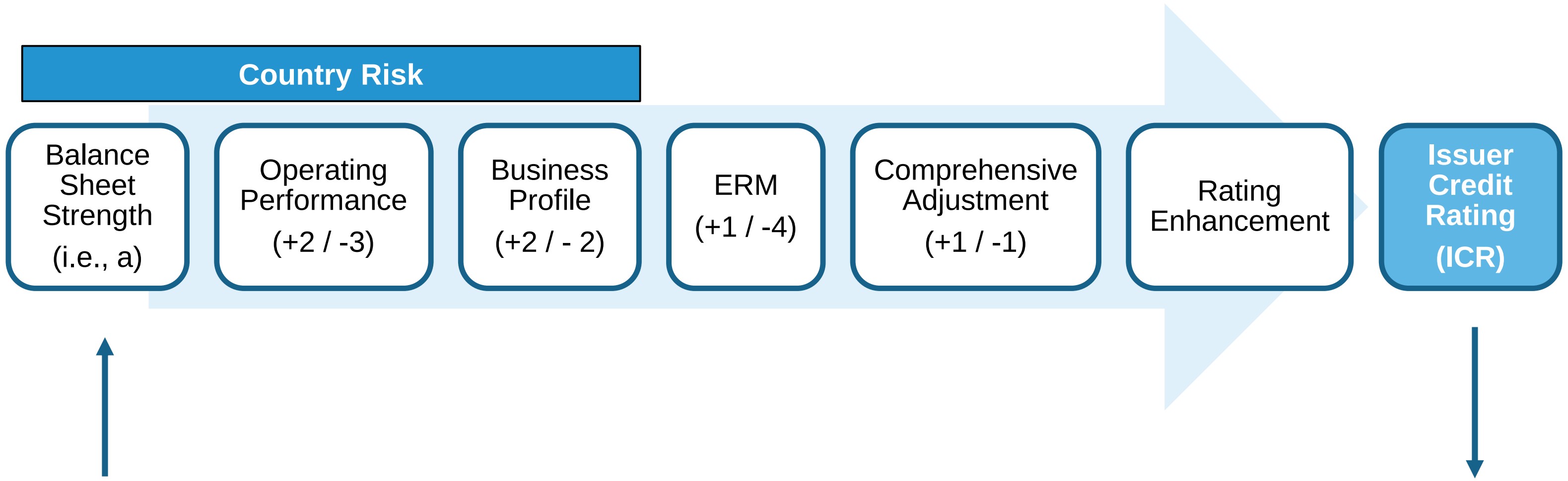
# AM Best Insurance Ratings Methodology

- AM Best follows a building block rating approach which assesses each individual component pictured below.
- Balance Sheet strength sets a base Issuer Credit Rating (ICR) based on the company's BCAR score and other qualitative financial metrics.
- The final ICR is the foundation for the Financial Strength Rating (FSR).

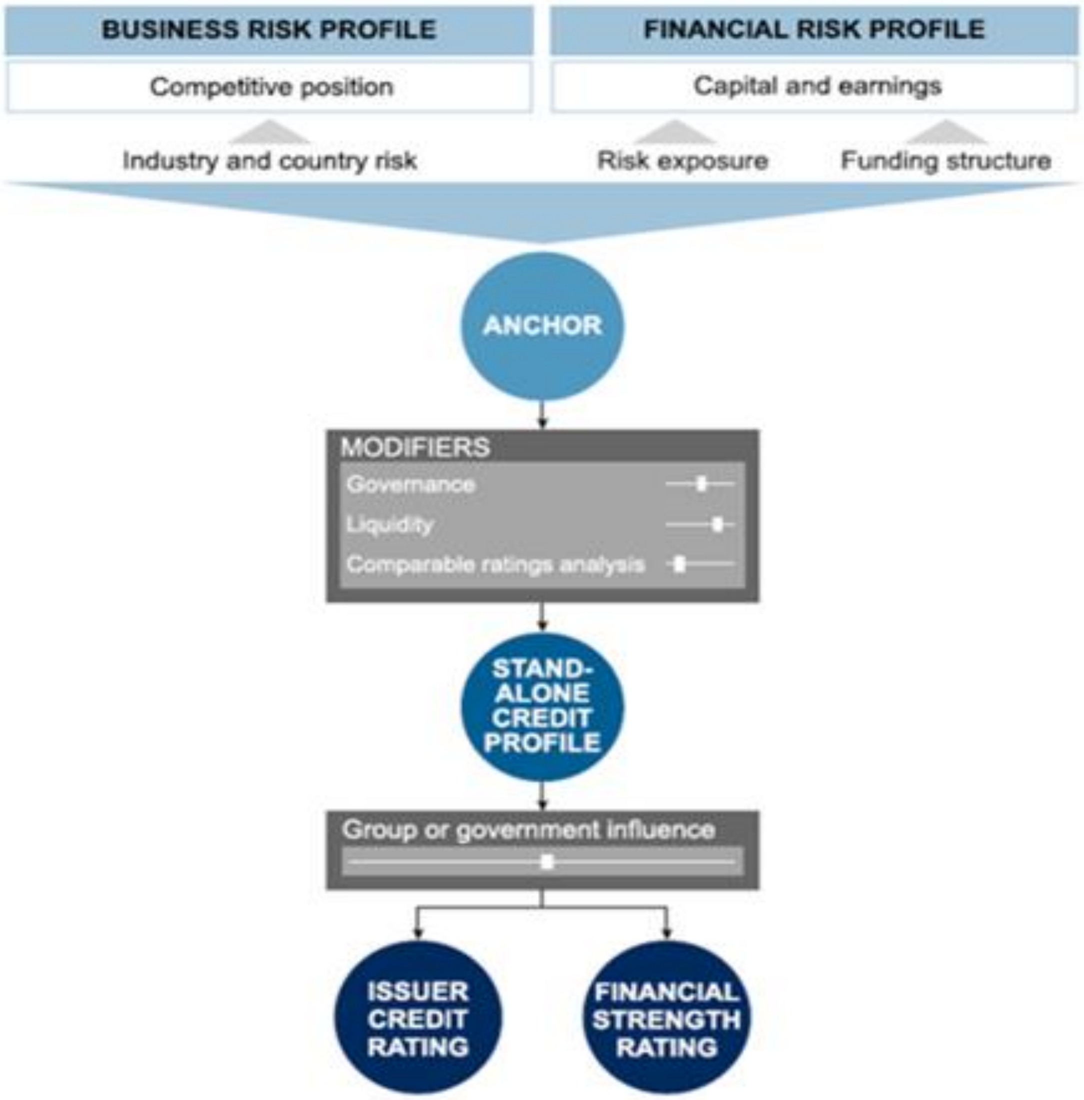



| Description | Stochastic BCAR | ICR | FSR |
|---|---|---|---|
| Strongest | >25 at 99.6 | a+ / a | A |
| **Very Strong** | **>10 at 99.6** | **a / a-** | **A / A-** |
| **Strong** | **>0 at 99.5** | **a- / bbb+** | **A- / B++** |
| Adequate | >0 at 99 | bbb+ / bbb / bbb- | B++ / B+ |
| Weak | >0 at 95 | bb+ / bb / bb- | B / B- |
| Very Weak | <0 at 95 | b+ and below | C++ and below |

| ICR | FSR |
|---|---|
| aaa / aa+ | A++ |
| aa / aa- | A+ |
| a+ / a | A |
| a- | A- |
| bbb+ / bbb | B++ |
| bbb- | B+ |

Source: AM Best

# Standard & Poor's Insurance Ratings Methodology




Source - S&P Global Ratings: Request For Comment: Insurers Rating Methodology

**Summary of Criteria**

- Applies to all global-scale insurers in the business of life, health, P&C and reinsurance
- Methodology consists of assessing the stand-alone credit profile (SACP) / group credit profile (GCP)
- SACP/GCP rests on eight rating factors:
  - — Competitive Position
  - — IICRA
  - — Capital & Earnings
  - — Risk Exposure
  - — Funding Structure
  - — Governance
  - — Liquidity
  - — Comparable ratings analysis
- SACP/GCP assessment is followed by group or government support evaluation which leads to the issuer credit rating (ICR) and financial strength rating (FSR) being published



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# Fitch Master Insurance Rating Criteria

## Key Credit Factors

| Operational Profile | | Financial Profile | | | | | | | Other Factors & Criteria Elements | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Industry Profile & Operating Environment** | **Business Profile** | **Capitalization & Leverage** | **Debt Service Capabilities & Financial Flexibility** | **Financial Performance & Earnings** | **Investment & Asset Risk** | **Asset / Liability & Liquidity Management** | **Reserve Adequacy** | **Reinsurance, Risk Mitigation & Catastrophe Risk** | **Corporate Governance & Management** | **Ownership** | **Transfer & Convertibility / Country Ceiling** | **Non-Insurance Attributes** |
| Regulatory Oversight | Competitive Positioning | Prism Capital Model | Fixed-charge & Interest Coverage | Return on Equity | Risky Assets Ratio | Liquid Assets / Reserves | Profile: Reserve Leverage, Reserves / Incurred Loss | Reinsurance Recoverables / Capital | Effective | Public: Stock | Neutral | Neutral |
| Technical Sophistication of Insurance Market; Diversity & Breadth | Operating Scale: Business Risk Profile | Financial Leverage Ratio | Statutory Coverage | Combined Ratio | Equity / Capital | Liquid Asset Ratio | Growth: Paid / Incurred Loss, Change Ratio of Reserves / NEP | 1-250 or 1-200 Year Annual Aggregate Cat Losses / Capital | Some Weakness | Public: Mutual | Favorable | Favorable |
| Competitive Profile | Operating Scale: Diversification | Total Financing & Commitments Ratio | Cash Coverage | Operating Ratio | Below Investment-Grade Bonds / Capital | Duration Gap | Experience: One- & Five-Year Development | NPW / GPW | Ineffective | Private: General | Unfavorable | Unfavorable |
| Financial Markets Development | Time in Business Constraint | Operating, Net & Gross Leverage | Access to Capital Markets | Return on Assets | Sovereign Investment Concentration | Cash & Equivalents / Policyholder Liabilities | Adequacy: Carried Reserves / Midpoint | Largest Net Single Risk Limit to Surplus | | Private: Sovereign | | |
| Country Risk | Potential Migration of Country Risk | Regulatory Solvency Ratios | Backup or Contingent Funding | EBITDA / Revenue | | Operating Cash Flow Ratio | Reserve Development to Capital, NEP or MCL | Single Risk Par / Capital | | Private: Supranational | | |
| | | Asset Leverage | Parent as Sole Source | Medical Benefit Ratio | | Cash & Invested Assets / Medical Claim Liabilities (MCL) | Number of Days Claims in MCL | Net Notional Par / Gross Notional Par Insured | | Private: Corporate | | |
| | | | | Growth | | Holding Company Liquidity | | | | Private: Bank / FI | | |

Note: Key Credit Factors weighted; forward-looking elements such as forecasting, rating sensitivity analysis and stress testing techniques may also be applied
Source: Fitch Ratings

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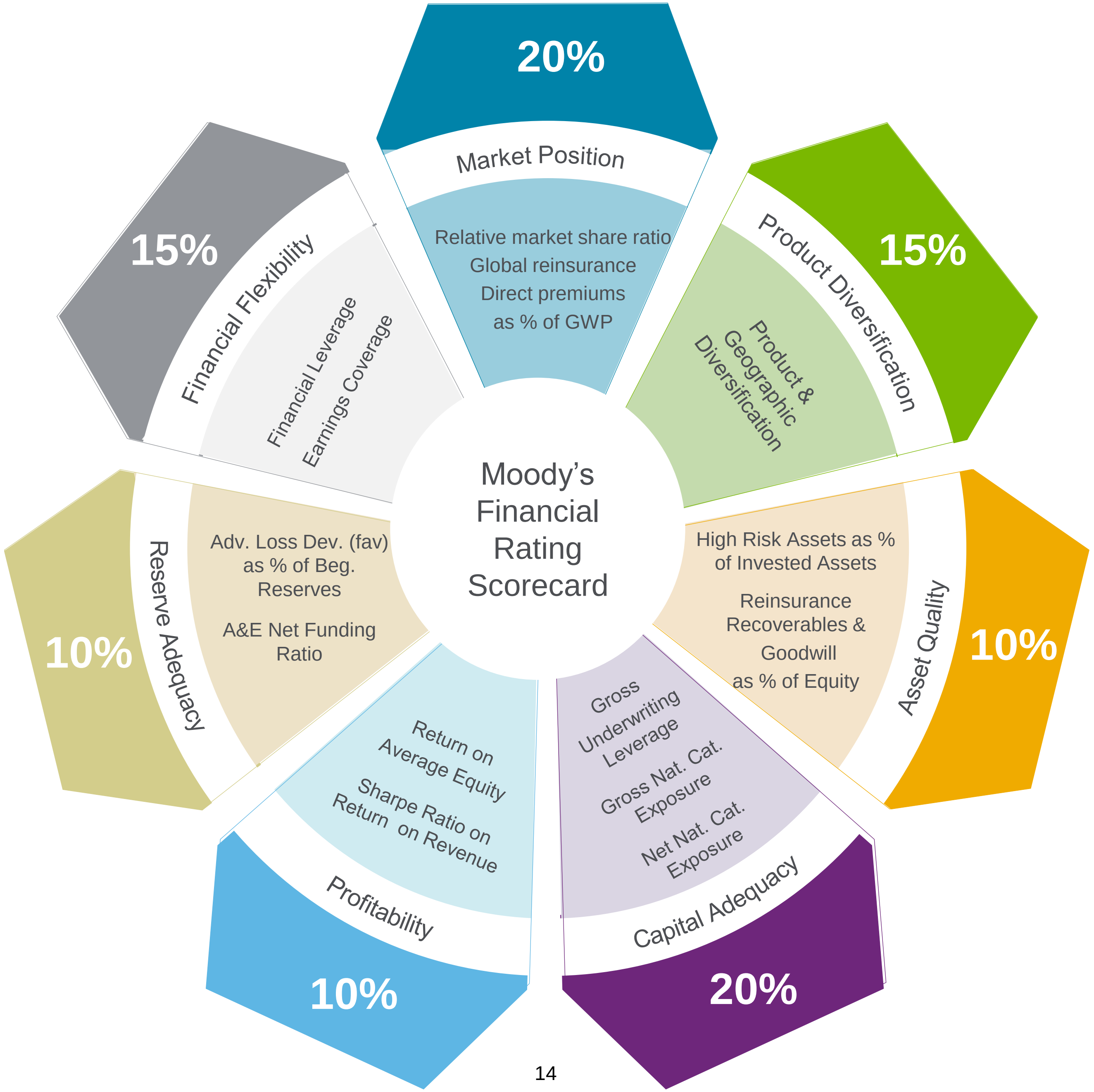
# Moody's Insurance Ratings Methodology




Source: Moody's Investors Service



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