S&P Global
Ratings

Insurer Risk-Based Capital Adequacy--Methodology And Assumptions

Live Webinar and Q&A – Nov. 20, 2023

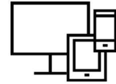
This report does not constitute a rating action

Agenda

1. Project Goals
2. Key criteria documents
3. Next steps
4. Key changes relative to previous criteria
5. Expected rating impact
6. Q&A

Criteria | Project Goals

Incorporate recent data and experience since our last update of the insurance capital model criteria



Enhance **global consistency** in our risk-based capital analysis for insurance companies

Increase risk differentiation in capital requirements where relevant and material to our capital adequacy analysis, and **reduce complexity** where it does not add analytical value

Improve the **transparency and usability** of our methodology, such as the superseding of 10 related criteria articles with the new single criteria article

Support our ability to **respond to changes in macroeconomic and market conditions** by introducing market variables

Key Criteria Documents

S&P Global
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Criteria | Published On Nov. 15, 2023

The three primary documents published are the criteria, RFC process summary, and the listing of credits designated as under criteria observation.

Insurer Risk-Based Capital Adequacy--Methodology And Assumptions

S&P Global
Ratings

RatingsDirect®

Criteria | Insurance | General:

Insurer Risk-Based Capital Adequacy--Methodology And Assumptions

November 15, 2023

OVERVIEW AND SCOPE

These criteria provide S&P Global Ratings' methodology and assumptions for analyzing the risk-based capital (RBC) adequacy of insurers and reinsurers. We apply the output from these criteria in our insurance framework (see our insurers rating methodology in "Related Criteria") to assess capital and earnings--a key rating factor for insurers.

These criteria apply globally to all insurers in the life, property/casualty, health, mortgage, trade credit, and title insurance and reinsurance sectors. We apply the bond insurance capital adequacy criteria (see "Related Criteria") to assess the risk-based capital adequacy of bond insurers.

Key Publication Information

- Effective date: These criteria are effective Nov. 15, 2023, except in jurisdictions that require local registration. In those jurisdictions, the criteria are effective only after the local registration process is completed.
- This updated methodology follows our request for comment (RFC) titled "Request For Comment: Insurer Risk-Based Capital Adequacy--Methodology And Assumptions," published May 9, 2023. For the changes between the RFC and the final criteria, see "RFC Process Summary: Insurer Risk-Based Capital Adequacy," published Nov. 15, 2023.
- These criteria supersede the criteria articles listed in the "Fully Superseded Criteria" section at the end of this article.

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RFC Process Summary: Insurer Risk-Based Capital Adequacy--Methodology And Assumptions

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RFC Process Summary:

RFC Process Summary: Insurer Risk-Based Capital Adequacy--Methodology And Assumptions

November 15, 2023

On Dec. 6, 2021, S&P Global Ratings published a request for comment (RFC) on its proposed criteria for insurer risk-based capital adequacy. Following feedback from market participants, we published a revised RFC, "Request For Comment: Insurer Risk-Based Capital Adequacy--Methodology And Assumptions," on May 9, 2023. After reviewing the feedback received on this RFC, we finalized and published our criteria "Insurer Risk-Based Capital Adequacy--Methodology And Assumptions" on Nov. 15, 2023.

The changes from our previous criteria are intended to enhance global consistency and transparency, improve our ability to differentiate risk, improve usability by consolidating criteria, and incorporate updated methodologies, data, and regulatory developments since the publication of the previous criteria.

Our risk-based capital (RBC) adequacy criteria establish the quantitative starting point that is integral to our analysis of the capital adequacy of insurance and reinsurance companies worldwide. We base our overall opinion of an insurer's capital and earnings on insights drawn from this criteria framework, evaluated in conjunction with other factors in our insurer ratings methodology (IRM) framework.

Variations in global accounting standards, regulatory regimes, and complex legal entity structures present challenges in the analysis of insurance company capitalization, but we take a global approach, noting in the criteria where there are specific regional treatments. We typically express our capital and earnings opinion by comparing total adjusted capital with risk-based capital requirements at different confidence levels.

We'd like to thank investors, issuers, and other market participants who provided feedback. This article, which should be read in conjunction with the final criteria, provides an overview of the changes we made between both the first and second RFCs and between the RFCs and final criteria. Moreover, this article provides an overview of the areas of the criteria without significant changes, as well as changes we made that did not arise from market feedback.

For most of the changes noted in this article, commenters not only raised specific concerns but provided data or pointed us to new information that we had not previously considered in our calibration. We were less likely to make changes where commenters criticized our approach but did not offer an alternative option or, if they did, it did not meet the goals of our criteria. However, we have clarified the criteria text where we determined it would enhance usability and transparency. We also note that the market variables we initially proposed to include in a separate Sector and Industry Variables Report have instead been included as an appendix to the criteria.

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Certain Issuer And Issue Ratings Placed Under Criteria Observation After Insurance Capital Model Criteria Update

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Certain Issuer And Issue Ratings Placed Under Criteria Observation After Insurance Capital Model Criteria Update

November 15, 2023

LONDON (S&P Global Ratings) Nov. 15, 2023--S&P Global Ratings today placed its ratings on certain issuers and issues under criteria observation (UCO). The UCO placement follows the publication of our revised criteria for analyzing insurer capital adequacy (see "Insurer Risk-Based Capital Adequacy--Methodology And Assumptions").

Following changes in rating methodology, credit rating agencies regulated under Regulation (EC) No 1060/2009, as amended, are required to immediately place credit ratings potentially affected by such changes under criteria observation (see "Standard & Poor's Announces "Under Criteria Observation" Identifier For Ratings Potentially Affected By Criteria Changes," published May 7, 2013).

The UCO identifier indicates a rating that could be affected by a change in criteria. The UCO identifier does not indicate the likelihood of a credit rating change, the timeline for any potential change, or the direction of a potential rating change. The UCO identifier does not modify any rating definition, and it is not equivalent to a CreditWatch.

These ratings have the "UCO" label in the Regulatory Identifier column on the individual issuer pages of S&P Global Ratings' online credit rating products. The UCO identifier will remain in place until the conclusion of the review under the changed criteria, at which time the rating may be affirmed, changed, or placed on CreditWatch or the outlook may be revised. We expect to finish the review of these ratings placed on UCO by the end of February 2024.

We expect to update our credit rationales for all insurance companies, including those companies not potentially affected but in scope, as soon as possible. We will also update the credit rationales of their noninsurance subsidiaries where relevant.

For the issuers listed below, we have assigned a UCO identifier to one or more ratings, including on subsidiaries or a related issue that could be affected. To check which ratings we have assigned the UCO identifier, go to www.spglobal.com/ratings.

Issuers With Ratings Placed Under Criteria Observation

- Accident Fund Insurance Co. of America
- AIA Group Ltd.
- Alte Leipziger Lebensversicherung a.G.

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Next Steps

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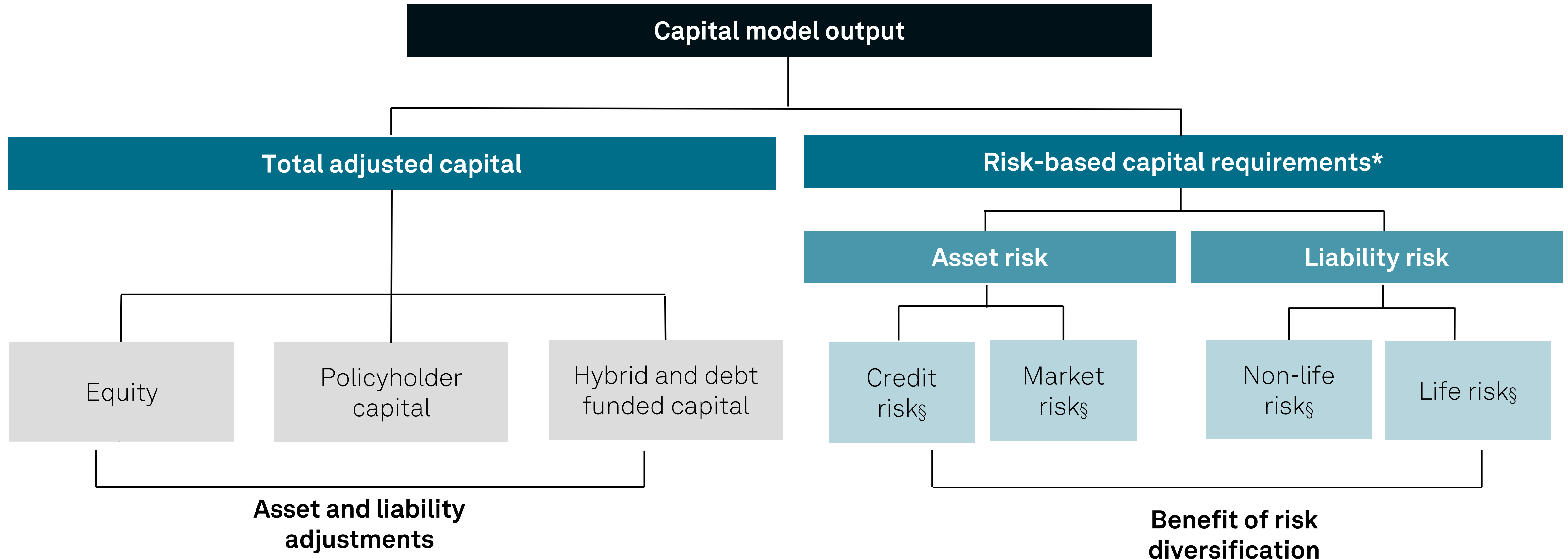
Next Steps | Implementation Plan

- Priority given to ratings marked as under criteria observation (i.e., ratings that could be affected by the change in criteria).
- We have started reaching out to issuers to discuss the new model inputs.
- We aim to complete criteria implementation as soon as possible, and by the end of February 2024 for ratings marked as under criteria observation.
- We expect to update our credit rationales for all insurance companies, including those companies not potentially affected but in scope.

Changes From Previous Criteria

Methodology



*The different stress levels we use for individual risks are 99.5%, 99.8%, 99.95%, and 99.99%.
§Subject to any applicable company-specific adjustments.
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Changes From Previous Criteria | Total Adjusted Capital

Revising our calculation of total adjusted capital (TAC) to reduce complexity and align with changes to our measure of an insurer's risk-based capital (RBC) requirements, including:

- Removing various haircuts to liability adjustments;
- Not deducting non-life deferred acquisition costs (DAC);
- Updating our approach to non-life reserve discounting; and
- Revising the approach to unconsolidated insurance subsidiaries, noninsurance subsidiaries, associates, and other affiliates.

Revising our methodology for including hybrid capital and debt-funded capital in TAC--although there are no changes to our hybrid capital criteria--by:

- Updating the principles for determining the eligibility of debt-funded capital in TAC;
- Aligning globally the hybrid capital and debt-funded capital tolerance limits; and
- Introducing a new metric, adjusted common equity (ACE), to be used in determining the amount of hybrid capital and debt-funded capital that is eligible for inclusion in TAC.

Changes From Previous Criteria | Total Adjusted Capital (cont.)

- Clarifying how we adjust equity for life insurers when there is a mismatch between the balance-sheet valuation of assets and liabilities.
- Updating our treatment of certain equity-like reserves to enhance global consistency.
- Using a narrower definition of policyholder capital that is eligible for inclusion in TAC, clarifying our treatment of unrealized investment gains on participating business, and making enhancements to our criteria for assessing risks relating to ring-fenced participating business.
- Updating the analytical principles relating to property/casualty loss reserves and U.S. life insurance reserves.
- Clarifying that adjustments to determine TAC are net of the related tax impact (unless otherwise stated), and all capital requirements are pretax.

Changes From Previous Criteria | RBC Requirements

- More explicitly capturing the benefits of risk diversification in risk-based capital (RBC) requirements by revising the confidence levels that we use to calibrate risk charges to 99.5%, 99.8%, 99.95%, and 99.99% from 97.2%, 99.4%, 99.7%, and 99.9%, respectively, and updating correlation assumptions and adding risk pairings.
- Updating capital charges for almost all risks based on the revised confidence levels and incorporating recent data and experience.
- Using a single set of charges for each risk with country- or region-specific charges as warranted to reduce complexity and enhance global consistency in the treatment of similar risks.
- Removing the potential adjustment to the capital model output resulting from our review of insurers' economic capital models (the "M factor") because of changes to these criteria, such as the update to our approach to assess interest rate risk to better capture an insurer's risk exposures.

Changes From Previous Criteria | RBC Requirements (cont.)

- Changing our methodology for determining credit risk charges on bonds (and certain other credit assets) to capture only unexpected losses, rather than total losses.
- Increasing risk differentiation in our credit risk capital requirements for bonds and loans to capture:
  - Variations in loss given default based on sector, creditor ranking, and collateral features; and
  - Differences in potential losses for structured finance assets, compared with assets in other sectors based on our correlation and recovery assumptions.
- Introducing globally consistent assumptions for determining the rating input for bonds and loans to better differentiate risk.
- Enhancing global consistency in assessing capital requirements for residential and commercial mortgage-backed securities and mortgage loans.

Changes From Previous Criteria | RBC Requirements (cont.)

Updating our methodology for assessing interest rate risk to enhance global consistency, better capture an insurer's risk exposures, and increase risk differentiation in our interest rate stress assumptions by country, as well as:

- Use liabilities as the exposure measure for life and non-life liabilities in all countries;
- Enable use of company-specific inputs under certain conditions;
- Apply an assumption based on the mean term of non-life liabilities to measure the duration mismatch for non-life business; and
- Reduce the risk of understating capital requirements by introducing floors in our mismatch assumptions and limiting the ability to offset losses in one business segment with gains in another segment.

Changes From Previous Criteria | RBC Requirements (cont.)

- Increasing risk differentiation in our equity risk capital requirements by introducing explicit risk charges for exposures to eligible infrastructure equities.
- Aligning our methodology for life technical risks (in particular, longevity, lapse, expense, and operational risks) across all countries, along with introducing additional risk differentiation for assessing the extent of longevity risk embedded in certain products.
- Introducing explicit capital requirements to capture morbidity risks on disability and long-term care products outside the U.S.
- Revising the conditional tail expectation (CTE) levels we use to determine capital requirements for variable annuities (VAs), consistent with the updates to our confidence levels, and increasing the amount of credit we include for VA hedging to up to 80% from 50%.

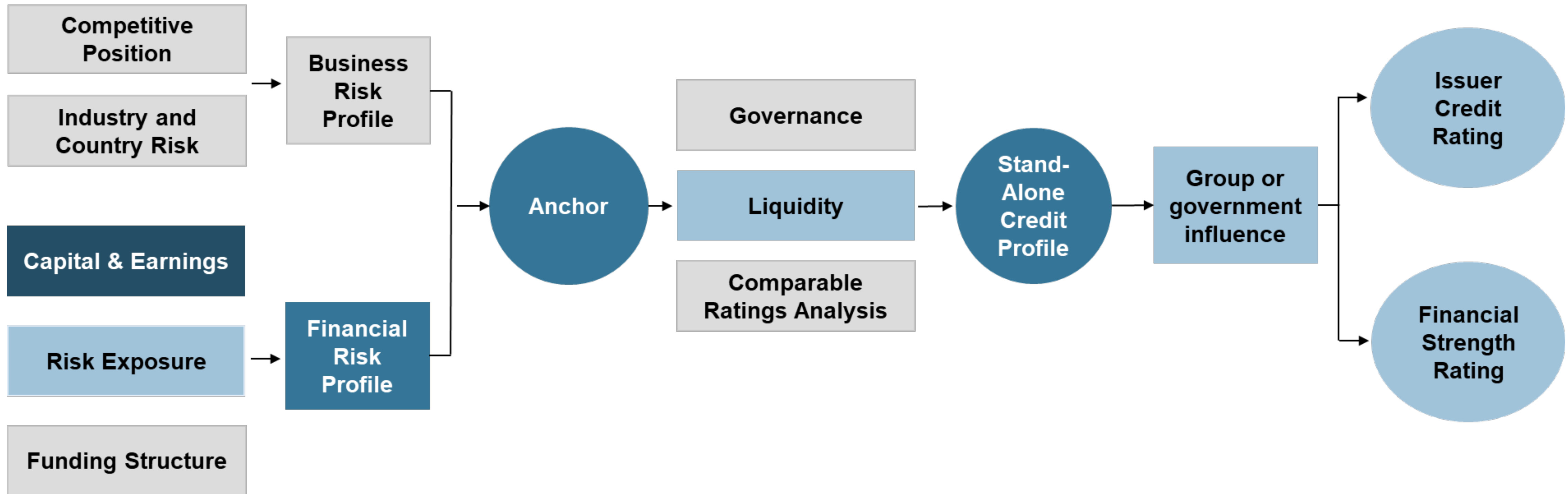
Changes From Previous Criteria | RBC Requirements (cont.)

- Introducing capital charges to capture pandemic risk and contingent counterparty credit risk relating to reinsured catastrophe exposures.
- Replacing the flat one-in-250-year post-tax property catastrophe capital charge with a pretax natural catastrophe (i.e., across all non-life business lines) capital requirement that varies from one-in-200 to one-in-500 years at different stress scenarios.
- Enhancing consistency in assessing liability-related risks by aligning the treatment of mortgage insurance, trade credit insurance, and title insurance with other non-life business lines.
- Introducing a scaled risk charge on life value-in-force (VIF) to capture the potential change in VIF in stress scenarios (this change is related to including up to 100% of life VIF in TAC).
- Removing explicit capital charges for convexity risk and regulatory closed blocks in the U.S.
- Removing capital charges for assets under management and deducting the investment in asset management businesses to determine TAC to increase the consistency of our approach to noninsurance businesses.
- Clarifying that we make company-specific adjustments only where they are material to our analysis.

Expected Rating Impact

Capital Model | In Context Of IRM Framework And Potentially Affected Areas

Insurance Criteria Framework:



Note: Darker shading represents potential areas of impact on the insurer rating construction. IRM--Insurers rating methodology.
Source: S&P Global Ratings.

Ratings Impact | Expectations

- The criteria could lead to credit rating actions on about **10% of ratings in the insurance sector.**
- The majority of rating changes are estimated to be by one notch, with **more upgrades than downgrades.**
- **Up to 30% of insurers** could see a change in capital and earnings assessment.
- The lower potential impact on ratings compared with components of our ratings reflects the application of the insurers rating methodology, group rating methodology, and sovereign rating constraints.
- We expect the criteria to have limited, if any, impact on issuer credit ratings or issue credit ratings on banks that own insurance companies.

Thank You - Any Questions, Please Feel Free To Contact Us

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*See "Insurer Risk-Based Capital Adequacy--Methodology And Assumptions" for additional contacts.

Appendix

Notable Changes In Final Criteria Relative To Request For Comment (RFC)

S&P Global
Ratings

Notable Areas Of Change From Proposal Based On Market Feedback

Determining the rating inputs for bonds and loans	Hybrid and debt-funded capital	Value of in-force business	Diversification
Materiality threshold for analytical adjustments	Real estate country categorization	Longevity risk	Morbidity risk--critical illness
Non-life lines of business--various risk charges	Natural catastrophe	Infrastructure equity holdings	Corporate-owned life insurance and other assets

Notable Changes In Final Criteria Relative To RFC

Determining the rating input for bonds and loans

- Step 1: Assets rated by S&P Global Ratings.
- Step 2: Assets rated by other credit rating agencies (CRAs).
  - Use regulatory mapping table, without adjustment.
  - Include ratings from CRAs that are:
    - Registered or certified in accordance with relevant CRA regulations;
    - Included in a mapping table that is used by insurance regulators in establishing capital requirements for credit assets;
    - Included in a regulatory mapping table that relates the CRA's rating scale to S&P Global Ratings' global rating scale; and
    - Included in a mapping table that is publicly available.
- Step 3: Assets with regulatory credit measures approved by insurer's domestic regulator.
  - Use mapping tables from step 2.
  - Includes NAIC (National Association of Insurance Commissioners) designations assigned by the SVO (Securities Valuation Office), and insurers' internal credit scores mapped under Solvency II.

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

Determining the rating input for bonds and loans (cont.)

- Step 4: Assets not included in Steps 1-3.
  - Rating input based on sector and economic risk group.
  - Further delineation of structured finance assets.
  - May modify assumption up/down by up to one rating category.
- Step 5: Assets not included in Steps 1-4.
  - Where we have been provided no further information on the asset, the rating input will be ‘CCC’.
    - We expect this to occur only in limited circumstances, given Steps 1-4 should address the large majority of credit assets.
  - In all cases, the rating input is 'D' for a bond that is rated 'D' or equivalent under Steps 1, 2, or 3.

Notable Changes In Final Criteria Relative To RFC (cont.)

Debt-funded capital/hybrid capital

- Debt instruments that are issued by a nonoperating holding company (NOHC) or a financing subsidiary of the NOHC are eligible as debt-funded capital where, in addition to all the conditions on the next slide being met, either:
  - There is high structural subordination of creditors of the NOHC relative to senior creditors of the regulated operating entities (we consider structural subordination high when potential regulatory restrictions to payment are high between regulated operating entities and the NOHC--typically this is when the NOHC is outside the regulatory perimeter); or
  - If there is low structural subordination of creditors of the NOHC relative to senior creditors of the regulated operating entities, the NOHC debt instrument is available and able to absorb losses through coupon deferral or cancellation or through principal deferral, write-down, or conversion without causing an event of default.

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

Debt-funded capital/hybrid capital (cont.)

- Debt instruments are eligible as debt-funded capital only where all the following conditions are met:
  - The regulator allows the nonoperating holding company (NOHC) debt to fund operating company capital (we exclude amounts that exceed any regulatory tolerance limits);
  - If the NOHC is inside the regulatory perimeter, the debt instrument is included as regulatory capital in group solvency calculations (we exclude any portion of the instrument that is not included as regulatory capital);
  - The residual time until the effective maturity exceeds one year (we apply the definition of effective maturity from our hybrid capital criteria);
  - The NOHC directly or indirectly owns the regulated operating entities and is not owned directly or indirectly by regulated insurance operating entities (and any financing subsidiary is not owned directly or indirectly by regulated insurance operating entities);
  - None of the NOHC's (or financing subsidiary of the NOHC's) financial obligations are guaranteed by regulated operating entities;
  - In our view, the proceeds from the debt instrument are available to the regulated operating entities to absorb losses on a going-concern basis (for example, debt raised to fund nonregulated activities or debt that we define as operational leverage is not eligible as debt-funded capital); and
  - The debt instrument is not an eligible intermediate- or high-equity-content hybrid capital instrument.

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

Debt-funded capital/hybrid equity (cont.)

- Additional considerations for nonoperating holding company (NOHC) cash and investments:
  - We apply a 20% haircut to the value of NOHC cash and investments in our calculation of TAC, where there is high structural subordination.
  - We may apply a higher haircut if we have heightened doubts about the availability of the group's capital resources to absorb losses in operating entities--for example, we may apply a 50% haircut when the group stand-alone credit profile is 'bb+' or lower.
  - We may also adjust the value of NOHC assets that are subject to the haircut, for example to exclude NOHC assets that:
    - Are being held to pay an external dividend that we have already deducted from shareholders' equity, or
    - Relate to debt that is not eligible as debt-funded capital.
  - We limit the total value of the haircut to the amount of eligible debt-funded capital included in TAC, but only to the extent the debt-funded capital relates to debt issued by an NOHC where there is high structural subordination.

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

Debt-funded capital/hybrid capital (cont.)

Hybrid Capital And Debt-Funded Capital Tolerance Limits		
Category	**---Maximum tolerance--**	
	Final criteria	**Initial RFC**
High-equity-content hybrids	Up to 40% of capital§	Up to 50% of ACE§
Intermediate-equity-content hybrids	Up to 30% of capital§	Up to 33% of ACE§
No-equity-content hybrids	0% of capital*	0% of ACE
Debt-funded capital	Up to 20% of capital§	Up to 25% of ACE§

*Unless eligible as debt-funded capital. §The limits are not cumulative. See criteria for additional details.

To determine the maximum tolerance, we use the higher of capital or 0.

Capital is defined as ACE + high-equity-content hybrids + intermediate-equity-content hybrids + debt-funded capital.

For capital models not based on consolidated financial statements, we may calculate ACE using consolidated GAAP or IFRS financials solely for the purpose of determining the hybrid capital and debt-funded capital tolerance limits.

Text in red indicates notable change in final criteria relative to May 2023 RFC. ACE--Adjusted common equity.

Notable Changes In Final Criteria Relative To RFC (cont.)

Other equity-like life reserves

- We include in adjusted common equity (ACE) other equity-like life reserves that we determine are available to absorb future unexpected life losses.
- We include these reserves when they are explicitly identified as reserve items in excess of best estimate reserves in the reported financial statements that we use for our capital analysis.
- When they are not explicitly identified, we may use information that is reported under different reporting standards (e.g., regulatory solvency statements) to determine the excess over the best estimate, but only to the extent the excess does not result from future profits related to future fees or investment income, but rather from conservatism in other assumptions (e.g., mortality assumptions).
- We include these reserves net of any associated on-balance-sheet tax impact (e.g., related deferred tax assets) or tax-adjust them otherwise. We do not typically tax-adjust equity-like reserves that are tax deductible.
- There is no specific risk charge on other equity-like life reserves.
- Glossary: Other equity-like reserves include the following:
    - Contractual service margin (IFRS 17);
    - Risk adjustment (IFRS 17);
    - Excess liability reserves (JGAAP)
    - Excess XXX/AXXX reserves (U.S. statutory);
    - Asset valuation reserves (U.S. statutory); and
    - Interest maintenance reserves (U.S. statutory)
- Weaker forms of capital in insurers rating methodology guidance: An example may include non-fungible equity-like reserves. Remove reference to VIF.

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

- **Equity risk**
  - Introduce separate charges for eligible infrastructure equities.
- **Real estate risk**
  - Add Switzerland to group 1 (from "other Europe" in group 2) and Canada to group 3 (from "other world" in group 4).
- **Interest rate risk**
  - Update interest rate shocks to reflect volatility in 2022 and reclassify Poland and Kazakhstan from category 4 to category 5 and U.K., Australia, and New Zealand from category 3 to category 4.
  - Improve clarity around standard and company-specific assumptions and enhance flexibility in definition of duration.
  - Add flexibility to determine net change in market value based on a given yield stress and flexibility in the step 1 yield stress at the long end of the yield curve.
  - Clarify the yield stress is based on the currency of liabilities
  - Clarify the step 1 exposure measure captures the group balance sheet in full.

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

- **Life**
  - Longevity risk: differentiate charge based on prudency of reserves.
  - Critical illness: reduction of charges from 3x mortality charges to just over 2x mortality charges.
  - Add the following countries to the list of highly developed life markets: Cyprus, Czech Republic, Hungary, Liechtenstein, Poland, Slovakia, and Slovenia.
  - Variable annuities: increase the maximum credit for hedging from 75% to 80%.
- **Non-life**
  - Update some premium and reserve charges (e.g., U.S. workers' compensation, marine P&I, U.S. dental and vision, Canada health, motor Japan and Taiwan).
  - Nat cat risk: additional data granularity for all confidence levels.
- **Mortgage insurance**
  - Revise the percentage of UPR that we use to determine premium risk from 25% to 20% (also applies to liability for remaining coverage).
- **Bond insurance**
  - Clarify the bond insurance specific considerations to determine TAC.

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

- **Other assets**
  - Include additional detail on treatment of specific assets (e.g., COLI, other chargeable assets, exempt assets).
  - Revise treatment of separate account COLI to align with treatment of general account COLI.
- **Diversification/correlation**
  - Some correlation assumptions have been reduced (mortality/morbidity, mortality/pandemic).
  - Include Level 2 diversification for “other” non-life product lines.
  - Reclassify title insurance to “other” from “financial” and engineering in APAC from "other" to "property."
- **Analytical adjustments**
  - Clarify when we apply company-specific adjustments.
  - Revise threshold for when we typically consider an adjustment material to our analysis (to 5% from 10%).

Text in red indicates notable change in final criteria relative to May 2023 RFC.

Notable Changes In Final Criteria Relative To RFC (cont.)

- **Other changes**
  - Clarifications related to unrealized gains and life reserve adjustments, with ability to use book values where we lack certain market value information (including for exposures).
  - Clarify treatment of unrealized gains on participating business and policyholder capital.
  - Explicit approach for intangibles related to invested assets.
  - Clarify the approach for joint ventures.
  - Expand the scope of the assessment of non-life reserve surpluses and deficits beyond just loss reserves.
  - Clarify the approach to deferred tax assets and tax-deductible equity-like reserves (including related deferred tax liability).
  - Revise the approach to premium receivables in the non-life reserve discounting calculation and non-life liability exposure for interest rate risk.
  - Revise treatment of bond funds.
  - Charges for health business with aging reserves apply globally not just in Germany.
  - Various editorial changes to improve clarity (e.g., calibration of charges at higher confidence levels, noninsurance subs).
  - Align the presentation of the article with S&P Global Ratings' revised criteria article format.

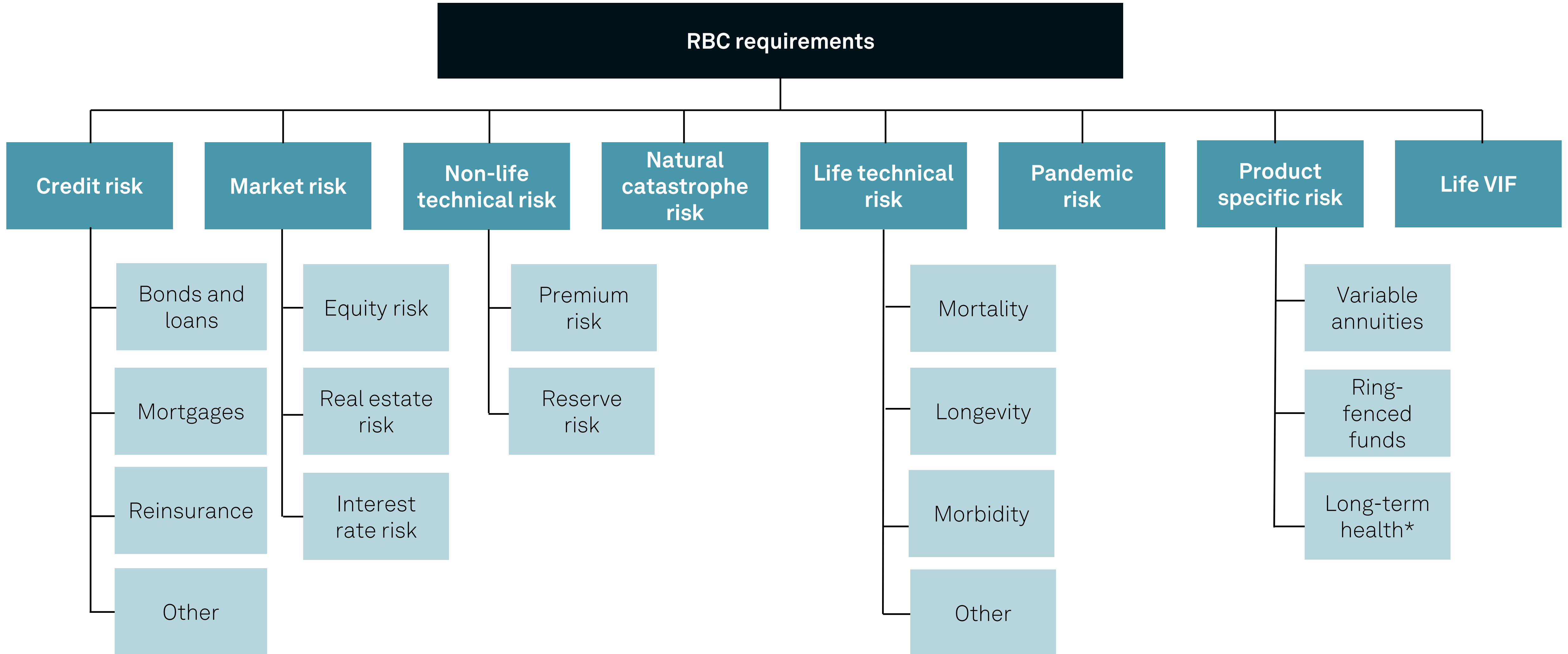
Text in red indicates notable change in final criteria relative to May 2023 RFC.

Other Reference Material

Total Adjusted Capital | Components

Common shareholders' equity/policyholders' surplus	
Plus	Equity non-controlling interests
Minus	Investments in own shares/treasury shares
Minus	Shareholder distributions not accrued
Minus	Intangible assets
Plus/minus	Post-retirement employee benefits
Plus/minus	Unrealized gains/(losses) on investments
Plus/minus	Non-life reserve adjustments
Plus/minus	Life reserve adjustments
Plus/minus	Company-specific analytical adjustments to determine ACE
= Adjusted Common Equity (ACE)	
Plus	Hybrid capital/debt funded capital (subject to tolerance limits)
Minus	Investments in non-insurance subsidiaries and unconsolidated insurance subsidiaries
Plus	Policyholder capital available to absorb losses
Plus	Unrealized gains on investments backing participating life business
Plus/minus	Company-specific analytical adjustments to determine TAC
= Total Adjusted Capital (TAC)	

Risk-Based Capital (RBC) Requirements



*Long-term health business with aging reserves. VIF--Value-in-force.

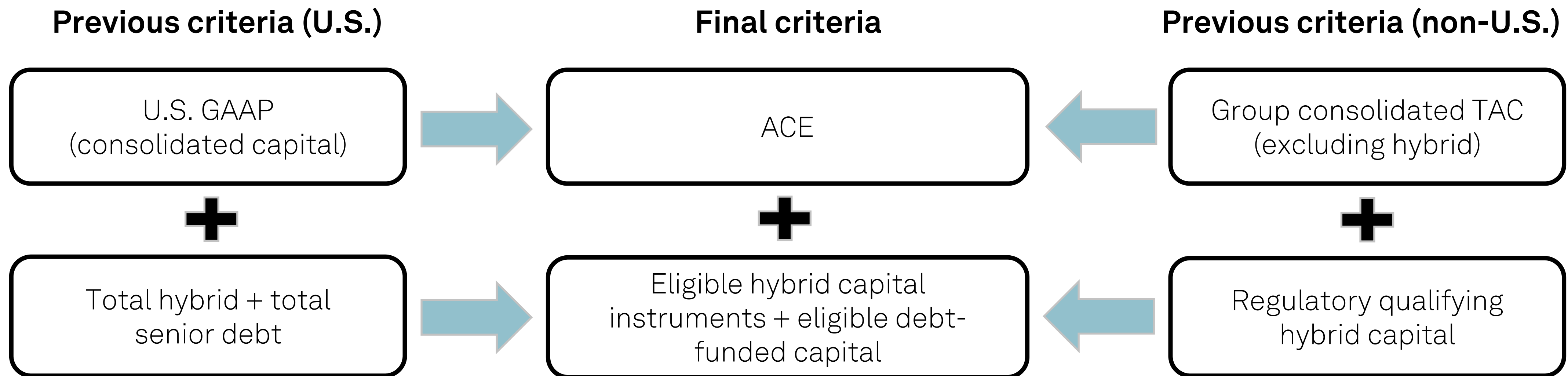
Changes To Guidance For Insurers Rating Methodology

- We **updated table 1,** replacing references to 'AAA', 'AA', 'A', and 'BBB' with 99.99%, 99.95%, 99.8%, and 99.5%, respectively.
- We **revised the sixth bullet of paragraph 30** to "If the composition of capital overly relies on weaker forms of capital to support the C&E assessment. As examples, we may consider nonfungible equity-like reserves, discount on non-life reserves, and hybrid/debt instruments as weaker forms of capital."
- We **added two considerations to paragraph 30** for determining whether the capital and earnings assessment is understated or overstated: "if the ability to reduce future discretionary bonuses and share losses with policyholders (also known as the 'loss-absorbing capacity of technical provisions') is materially understated in our capital model" and "if our interest rate risk capital requirements materially understate an insurer's exposure to yield shocks, for example owing to convexity risk in either assets or liabilities that is not adequately captured in the capital model."
- We **updated paragraph 54** to:
  - Replace references to 'A' with 99.5%;
  - Replace the property catastrophe charge with the natural catastrophe and pandemic charges; and
  - Delete references to the net trade credit exposure charge.
- We **deleted the sector-specific mortgage insurance and title insurance sections** (paragraphs 68-73 and tables 4-6) and deleted references to mortgage insurers in paragraph 28, so the liquidity and capital and earnings sections, including table 1, will then apply to mortgage and title insurers.
- We **aligned the terms** in the guidance with the final criteria and updated criteria references.

Calculation Of Hybrid Capital And Debt-Funded Capital Tolerance Limits

Denominator of hybrid capital and debt-funded capital tolerance limit formula:

Previous criteria (U.S.)	U.S. GAAP (consolidated) capital + total hybrid + total senior debt
Previous criteria (non-U.S.)	Group consolidated TAC (excluding hybrid) + regulatory qualifying hybrid capital
Initial proposal	ACE
Final criteria	ACE + high-equity-content hybrids + intermediate-equity-content hybrids + DFC



ACE--Adjusted common equity. TAC--Total adjusted capital. DFC--Debt-funded capital. GAAP--Generally accepted accounting principles.

Treatment Of Equity-Like Reserves, VIF, And Policyholder Capital

Component*	Included in ACE§	Included in TAC§	Explicit risk charge†
Contractual service margin and risk adjustment under IFRS 17	Yes	Yes	No liability risk charge
Excess XXX/AXXX reserves (U.S. statutory)	Yes	Yes	No liability risk charge
Excess liability reserves (Japan)	Yes	Yes	No liability risk charge
Provision for adverse deviations	Yes	Yes	No liability risk charge
Off-balance-sheet life value of in-force‡	Yes	Yes	Yes (VIF risk charge)
Life deferred acquisition costs, value of business acquired	Yes	Yes	Yes (VIF risk charge)
50% of the policyholder dividend liability in the U.S.	No	Yes	No liability risk charge
Freie Rückstellung für Beitragsrückerstattung (free RfB) and terminal bonus in Germany	No	Yes	No liability risk charge
Unallocated policyholder dividend liability in Japan	No	Yes	No liability risk charge
Provision pour participation aux excédents (PPE) in France	No	Yes	No liability risk charge

This table is a simplification and for illustration purposes only; it does not supersede the criteria.

*This list is not exhaustive; see criteria for more details.
§See criteria for full context and conditions regarding the extent of inclusion.
†Assets backing these reserves are subject to asset-related risk charges, if relevant.
‡We do not include an adjustment for off-balance-sheet life VIF where we determine the financial statements are on an economic value basis.
Items are included net of the related tax impact, unless otherwise stated in the criteria.

IFRS--International Financial Reporting Standards. VIF--Value in-force.

Determining The Interest Rate Risk Capital **Requirement**

Can we determine the net change in market value (NCMV) based on company-specific assumptions?

Yes →

Either Step 1a

The interest rate risk capital requirement for each confidence level is the NCMV based on the relevant yield stress for each currency for all assets and liabilities in scope of this section of the criteria (applying only the most onerous yield stress scenario). The result is subject to a floor based on 0.5 year determined using the methodology in step 1b.

Or Step 1b

The interest rate risk capital requirement for each confidence level is the sum across all currencies of the product of:

i) the relevant exposure for life, non-life, and capital;

ii) the company-specific duration mismatch (subject to a floor of 0.5 year); and

iii) the relevant yield stress for each currency (applying only the most onerous yield stress scenario).

No ↓

Can we determine for each of the life and non-life segments, if applicable, that the duration of assets is either greater or less than the duration of liabilities (i.e., do we know the direction of the mismatch)?

Yes →

Step 2

For each confidence level, the interest rate risk capital requirement is based on our standard assumptions and is the higher of:

i) Interest rate risk in the up scenario, defined as the sum of interest rate risk for the capital segment and for any segments (i.e., life and/or non-life) where the up scenario is the most onerous; and

ii) Interest rate risk in the down scenario, defined as the sum of interest rate risk for any segments (i.e., life and/or non-life) where the down scenario is the most onerous.

In this step, we do not offset losses in one segment with gains in another segment.

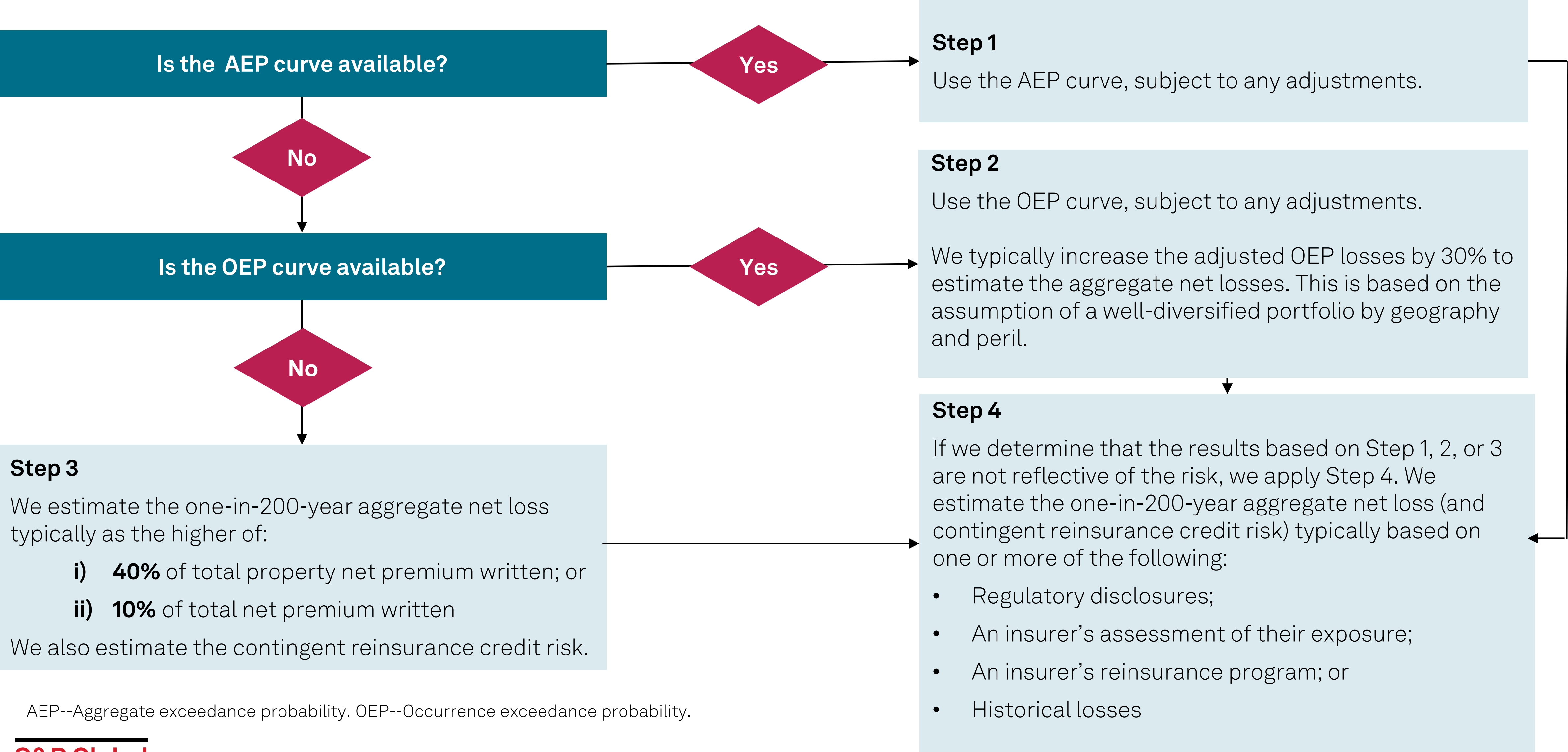
The interest rate risk capital requirement is subject to a floor of one year applied to the total of the relevant exposures for life, non-life, and capital in the most onerous yield stress scenario, as determined in i and ii.

No ↓

Step 3

The interest rate risk capital requirement is the sum of the interest rate risk for the life, non-life, and capital segments for the up scenario based on standard assumptions for each confidence level.

Determining The Net Aggregate Loss Estimate



AEP--Aggregate exceedance probability. OEP--Occurrence exceedance probability.

S&P Global Ratings

Diversification | Components

- To determine the total RBC requirements, we assess risk dependencies using **correlation assumptions** between various risk pairings.
- This explicit diversification credit brings the sum of the capital requirements across each risk to a **level commensurate with the defined stress scenarios.**
- We apply correlation assumptions at three levels.
  - Level 1 diversification: Within business lines.
  - Level 2 diversification: Within risk categories.
  - Level 3 diversification: Between risk categories.

Correlation Assumptions Between Risk Categories

	Market risk	Credit risk	Nat cat risk	Non-life technical risk	Life technical risk	Pandemic risk§
Market risk	100%	75%	25%	25%	25%	75%
Credit risk	75%	100%	25%	25%	25%	75%
Nat cat risk	25%	25%	100%	0%	0%	0%
Non-life technical risk	25%	25%	0%	100%	0%	25%
Life technical risk	25%	25%	0%	0%	100%	N/A *
Pandemic risk§	75%	75%	0%	25%	N/A *	100%

*We calculate the implied correlation (IC) between pandemic and life technical risk capital requirement based on the diversified life technical risk capital requirements including pandemic risk. This is calculated by applying the correlation assumptions in table 34 to the capital requirements for mortality, morbidity, longevity, other life technical, and pandemic risks and adding the capital requirements for long-term health business with aging reserves and variable annuities. §Natural catastrophe and pandemic risks are inclusive of contingent reinsurance counterparty risk.

Fully Superseded Criteria Articles

- Methodology: Treatment Of U.S. Life Insurance Reserves And Reserve Financing Transactions, March 12, 2015
- Methodology: Mortgage Insurer Capital Adequacy, March 2, 2015
- Methodology For Assessing Capital Charges For U.S. RMBS And CMBS Securities Held By Insurance Companies, Aug. 29, 2014
- Trade Credit Insurance Capital Requirements Under S&P Global Ratings' Capital Adequacy Model, Dec. 6, 2013
- Assessing Property/Casualty Insurers' Loss Reserves, Nov. 26, 2013
- Methodology: Capital Charges For Regulatory Closed Blocks Under S&P Global Ratings' Capital Model Framework, Oct. 31, 2013
- Methodology For Assessing Capital Charges For Commercial Mortgage Loans Held By U.S. Insurance Companies, May 31, 2012
- Methodology For Calculating The Convexity Risk In U.S. Insurance Risk-Based Capital Model, April 27, 2011
- A New Level Of Enterprise Risk Management Analysis: Methodology For Assessing Insurers' Economic Capital Models, Jan. 24, 2011
- Refined Methodology And Assumptions For Analyzing Insurer Capital Adequacy Using The Risk-Based Insurance Capital Model, June 7, 2010

- **Retired Guidance -** Methodology For Calculating The Convexity Risk In U.S. Insurance Risk-Based Capital Model, March 3, 2018

Nonoperating Holding Companies (NOHC) Of Bermuda-Based Re/insurers

On Nov. 17, we placed the issuer credit ratings on 15 NOHCs of Bermuda-based re/insurers, and issue ratings issued or guaranteed by these NOHCs, on CreditWatch with negative implications.

Overview

- We are reviewing our base-case assumptions on the potential regulatory restrictions to payments from Bermuda-based operating re/insurance companies to nonoperating holding companies (NOHCs), as well as the possible mitigants to these restrictions according to our group rating methodology.
- Our view of the potential regulatory restrictions to payments is relevant for our assessment of debt-funded capital credit for debt issuances under our updated capital model criteria.
- We generally rate NOHCs of insurance groups two notches below their core operating subsidiaries if potential restrictions to payments are low and three notches if high.
- We could lower the ratings on these NOHCs and, by extension, the ratings on the securities issued or guaranteed by these NOHCs by one notch if we determine our view of potential payment restrictions to high.
- Alternatively, we may affirm the ratings on these NOHCs if we determine potential restrictions to payments in Bermuda are low, or if we determine such restrictions are high but on a case-by-case basis view that there are potential mitigants that may warrant a narrower notching.
- The ratings on the operating re/insurance entities owned by these NOHCs are not affected by any rating actions on the NOHCs.

We have not placed our ratings on entities in these groups under criteria observation because we do not expect rating actions on these groups due to the updated criteria.

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