CREDIT OPINION
23 October 2026

Update

Send Your Feedback

RATINGS

Allianz SE

Domicile	Munich, Germany
Long Term Rating	Aa2
Type	Insurance Financial Strength - Fgn Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

Contacts

Benjamin Serra +33.1.5330.1073
SVP-Ratings
benjamin.serra@moodys.com

Jose Pasache +49.69.86790.2171
Sr Ratings Associate
jose.pasache@moodys.com

Salman Siddiqui +44.20.7772.1201
Exec Dir-Ratings
salman.siddiqui2@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Allianz SE

Update to credit analysis

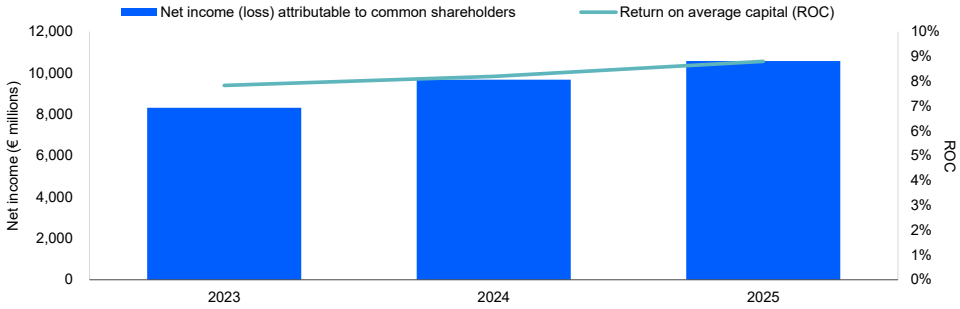
Summary

The credit profile of Allianz SE (rated Aa2 for insurance financial strength and senior debt) reflects the group's very strong franchise as well as business and geographic diversification, very strong and stable profitability, strong capitalisation and very good financial flexibility. Partially offsetting these strengths is the high exposure to asset risk, which has the potential to put pressure on the group's earnings and capitalisation.

Allianz SE has a track record of consistent strong profitability. A high level of recurrent profits enables the group to protect and grow its capital and enhances its financial flexibility. Allianz's earnings generation is supported by its superior franchise strength and a broad diversification. Allianz is one of the largest global insurers, with leading or very strong positions in many property and casualty (P&C) and life markets around the globe. Allianz also has a strong presence in asset management via PIMCO and Allianz Global Investors, a business which diversifies well with insurance and which is a source of large fee revenues.

Exhibit 1

Net Income and Return on Capital (1yr. avg.)



Return on capital is calculated based on Moody's Ratings definition. Shareholders' equity includes 50% of net CSM after tax, the free part of RfB and the terminal bonus fund of Allianz Lebensversicherung AG, and equity credit of subordinated debt.
Sources: Company reports and Moody's Ratings

Credit profile of significant subsidiaries

For more information[1] please see the credit profiles of (1) Allianz Versicherungs-AG and Allianz Lebensversicherungs-AG (rated Aa2 for insurance financial strength, stable outlook), collectively referred to as Allianz Deutschland, (2) Allianz's Spanish operations, Allianz Seguros (Aa3, stable outlook), (3) Allianz's US life operations, Allianz Life Insurance Company of North America (Aa3, stable), (4) Euler Hermes SA "Allianz Trade" (Aa2, stable), (5) Allianz Taiwan Life Insurance Company Ltd. (A1 stable).

Credit strengths

» Very strong global franchise and market positions in mostly all markets Allianz operates in

» Strong degree of diversification between P&C and life, with asset management providing additional diversification benefit

» High profitability levels with low volatility

» Good capitalisation, as evidenced by a Solvency II ratio consistently above 200%

» Very strong financial flexibility

Credit challenges

» Protect profits and capital from an elevated high risk asset exposure, notably equity exposure, compared to peers

» Manage the impact of macroeconomic and geopolitical uncertainties on profitability and solvency

Rating outlook

The stable outlook on Allianz SE reflects our expectation that Allianz will continue to report strong results and will maintain a Solvency II ratio above 200%

Factors that could lead to an upgrade

Given Allianz SE's very high ratings level, the group's current dividend policy and its exposure to financial risks, we consider that an upgrade of the Aa2 insurance financial strength rating (IFSR) is unlikely in the next 12-18 months.

Factors that could lead to a downgrade

Allianz SE's ratings could be downgraded if:

» the group's Solvency II ratio falls consistently below 200%,

» its profitability would sustainably go down from its current level, or if the volatility of its profits would increase materially,

» its level of diversification would reduce materially, for example following the divestment of a major operation, or

» its asset quality weakened or its equity risk exposure increased.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

Allianz SE [1][2]	2025	2024	2023	2022
As Reported (Euro Millions)				
Total Assets	1,024,276	1,044,578	983,174	935,897
Total Shareholders' Equity	66,349	64,076	61,560	58,735
Net Income (Loss) Attributable to Common Shareholders	10,615	9,787	8,399	6,302
Moody's Adjusted Ratios				
High Risk Assets % Shareholders' Equity	199.5%	193.8%	194.6%	206.5%
Reinsurance Recoverables (or Reinsurance Contract Assets) / Shareholders' Equity	27.5%	28.7%	25.5%	28.4%
Goodwill & Intangibles % Shareholders' Equity	46.6%	47.7%	47.8%	51.0%
Shareholders' Equity % Total Assets	7.9%	7.6%	7.8%	7.5%
Return on Average Capital (ROC)	8.8%	8.2%	7.3%	NA
Sharpe Ratio of ROC (5 yr.)	1040.9%	NA	NA	NA
Adv. (Fav.) Loss Dev. % Beg. Reserves	-2.1%	-2.3%	-3.5%	0.0%
Financial Leverage	19.9%	21.2%	21.5%	24.0%
Total Leverage	28.0%	29.8%	30.0%	30.4%
Earnings Coverage	13.1x	11.4x	10.6x	9.5x

[1] Information based on IFRS17 financial statements as of the fiscal year ended 31 December. [2] Certain items may have been relabeled and/or reclassified for global consistency.
Sources: Company reports and Moody's Ratings

Profile

Allianz SE is the ultimate holding company of the Allianz group and is publicly traded on the Frankfurt Stock Exchange. It is also an operating company, only writing reinsurance business, most of which is intragroup. Allianz is the largest P&C insurer globally, among the top 5 life insurers, and one of the largest global asset managers. It also has a leading position in global corporate and specialty business, and is the leading provider of trade credit insurance and travel insurance and assistance services.

Detailed credit considerations

Market position and brand: Very strong global franchise including leading position in Germany

Our assigned score of Aa, in line with the unadjusted score, reflects Allianz' very strong global footprint as a leading P&C insurer, among the top 5 life insurers and one of the largest global asset managers.

The group's very strong franchise, which we expect Allianz to maintain, includes a leading position in Germany where it has the largest market shares in life and non-life business, as well as leading positions in France, Italy, Switzerland and the United Kingdom. In addition, Allianz has a leading position in global corporate and specialty business, and is the leading provider of credit insurance (Euler Hermes "Allianz Trade") and travel insurance and assistance services globally (Allianz Partners). Through PIMCO and Allianz Global Investors, Allianz also has a strong presence in the global asset management industry.

Furthermore, Allianz is taking steps to grow inorganically, mostly via moderately sized acquisitions in markets where the group is already operating. Most transactions over recent years were to further strengthen local presences and moving closer to local market leadership, or more recently to expand its presence in the Asia Pacific region. However, the group also divested businesses with unfavorable risk characteristics or weaker market positions.

The group also wants to grow organically. In life and asset management, Allianz aims for higher convergence of the two segments and additional growth in protection and health business. In P&C, the group aims for growth both in retail and commercial lines. Overall, growth ambitions are based on further unifying operating models across markets and segments and increasing penetration of customer facing platforms.

Distribution: Strong diversity and control

Our assigned score of Aa is lifted from the A raw score to reflect Allianz's access to a variety of distribution channels across many of its countries of operation as well as the preferred position it has with non-proprietary channels thanks to its strong franchise.

For life insurance, the group has a strong focus on tied agents, particularly in Germany, which represents its largest distribution channel. Other significant channels include brokers and bancassurance, an area that is growing and where the group benefits from exclusive distribution agreements in various regions, including HSBC in Asia, Commerzbank, Santander and HypoVereinsbank in Germany for both life and P&C business, and, since December 2020, BBVA in Spain for P&C business.

Allianz continues to develop new digital distribution models and its new pan-European direct insurance brand Allianz Direct became operational in late 2019. Traction of this channel varies across countries, but after a series of acquisitions, Allianz is the leading European direct insurer.

Product focus and diversification: Very strong diversification partially offset by risks from life book

Our assigned score of Aa is adjusted up from the A raw score to reflect Allianz's very strong business diversification notably supported by its very strong asset management business, a key differentiator to other insurers.

Operating profits are well balanced between non-life, life & health, and asset management (Exhibit 6). The group's geographic diversification is also very strong, with the majority of operating profits generated in its European businesses and sizable contributions from other regions, as well as from global lines and asset management, which are well diversified geographically by nature (Exhibit 7).

Allianz's key product risk is in the life segment, which still has relatively high guarantees in many core markets, notably Germany. However, Allianz's exposure to interest rate risk has reduced materially over the recent years. Thanks to both proactive new business (with the active sale of less interest-rate sensitive products) and back-book management (including reinsurance transactions), the share of unit-linked and protection products has increased and the average inforce guaranteed rate has fallen. We believe guaranteed rate commitments are well covered for the foreseeable future thanks to very strong asset-liability management, as evidenced by the low sensitivity of the group's Solvency II ratio to a change in interest rates.

Allianz's P&C product risk is moderate overall, reflecting exposure to short-tail as well as longer-tail lines and to all customer groups, from small-scale retail over small and medium enterprises to large commercial insurance risks.

Global Lines, which includes credit insurance and commercial insurance businesses, also brings exposure to specific risks, such as a sharp deterioration in the macroeconomic environment for Allianz Trade or man-made and cat risks for Allianz Global Corporate & Specialty (AGCS), but none of these specific businesses has a predominant weight in the overall group's business mix.

Asset Quality: Relative high exposure to equity, but risk sharing with policyholders mitigate risks

Our assigned score of A is adjusted up from the Baa raw score to reflect the diversification of Allianz' investment portfolio and the ability for the group to share some investment losses with policyholders in the life segment.

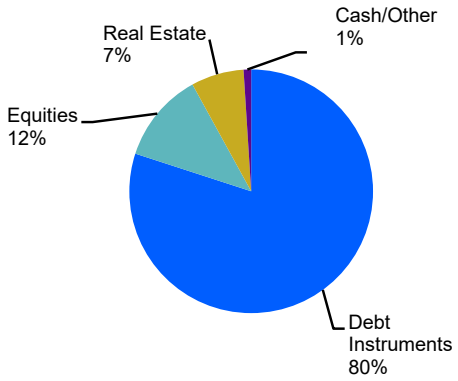
Allianz has a relatively elevated high-risk-asset ratio compared to European and global peers. This is mainly driven by its significant exposure to equities. Additionally, over the past decade, Allianz also increased its exposure to alternative investments such as mortgages, real estate, private placements, infrastructure and private equity. Whilst enhancing yield and matching well with the group's illiquid liabilities, we believe that some of these investments also add more risk to the investment portfolio (Exhibit 3).

However, as most of the exposure to risky assets pertains to portfolios matching European participating life business, potential losses on this portfolio in a stress situation could be shared with policyholders. Allianz also implemented hedges to cover downside risks, notably on the listed equity portfolio.

Following the increase in interest rates and the lower incentives to chase yields, we do not expect the group's exposure to equities or alternative assets to increase significantly.

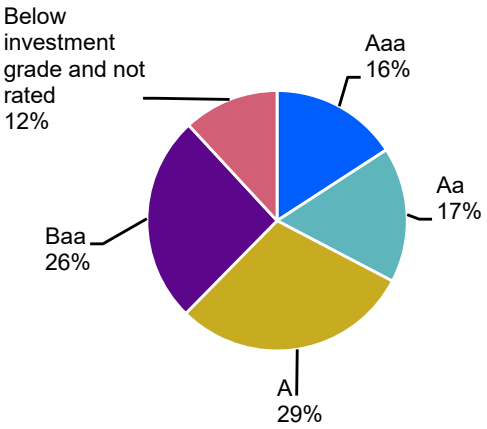
The average quality of the fixed income securities remained good with the majority of debt securities rated A or above (Exhibit 4). Furthermore, Allianz's has significantly reduced exposure to Italian sovereign bonds (Government of Italy, Baa2, stable outlook) over past years.

Exhibit 3
Investment portfolio, December 31, 2025
Total investment portfolio: €753.4 billion



Sources: Company reports and Moody's Ratings

Exhibit 4
Fixed income by rating, December 31, 2025
Total fixed income portfolio: €602.7 billion



Sources: Company reports and Moody's Ratings

Our assessment of asset quality also takes into account intangible assets and reinsurance recoverables. We view both exposures, as a percentage of equity, as moderate to low.

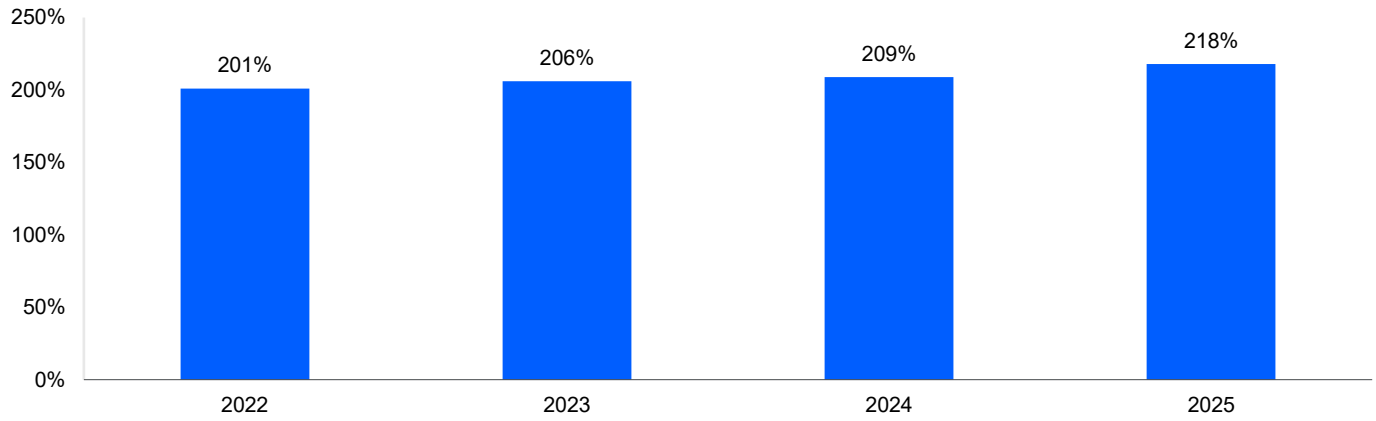
Capital Adequacy: Very strong capitalisation although sensitive to market volatility

Our assigned score of Aa, adjusted up from A, reflects Allianz's strong economic capitalisation, as evidenced by a strong Solvency II ratio that we expect to remain above 200%.

Reported sensitivities of Allianz's Solvency II coverage to financial markets are moderate. The largest sensitivity was against a 30% fall in equity markets, resulting from its private equity holdings. While the sensitivity to a downturn in equity markets is higher than peers, sensitivity to interest rates changes is lower, as the group gradually closed the duration gap between its assets and liabilities. Therefore, overall, a shock combining stresses on equities, interest rates and spread would not penalise Allianz's Solvency II ratio more than peers.

Our view of Allianz's capitalisation is also supported by a strong capital generation, supported by the group's very high and stable level of earnings. A large part of the earnings is currently returned to shareholders through dividends and share buy backs, but it is in general available to absorb all sorts of stresses.

Exhibit 5
Solvency II ratio development



Sources: Company report, Moody's Ratings

Profitability: Strong underlying operating performance to be maintained in the long-term

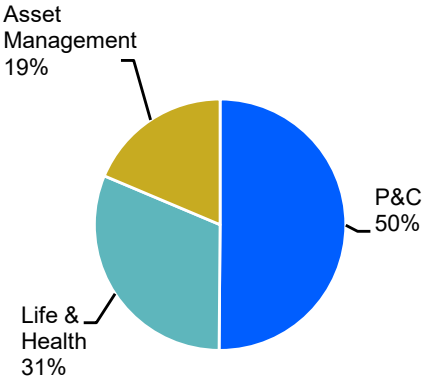
Our assigned score of Aa, in line with the unadjusted score, reflects Allianz's strong profitability, supported by diversified operating earnings.

Volatility of earnings has been relatively low despite large one-off events such as Covid-19 in 2020 and fines related to issues with the Structured Alpha Funds in the asset management business in 2021 and the first quarter of 2022. Earnings remain resilient even in periods of slower economic growth, high inflation, and financial market volatility. The high degree of diversification in segment earnings, including asset management operations, is a key driver of Allianz's strong profitability.

In P&C, Allianz continues to implement rate increases to at least offset claims inflation in retail lines. In addition Allianz's results benefit from higher interest rates, in P&C as well as gradually in the life segment. Strong diversification and active exposure management also enable Allianz to limit the impact of lower reinsurance protection since 2023. Allianz reported a 92% combined ratio in 2025 and we expect the group's combined ratio to remain below 95%. In global lines, such as the commercial P&C insurance and trade credit insurance segments, prices are declining but combined ratios remain good.

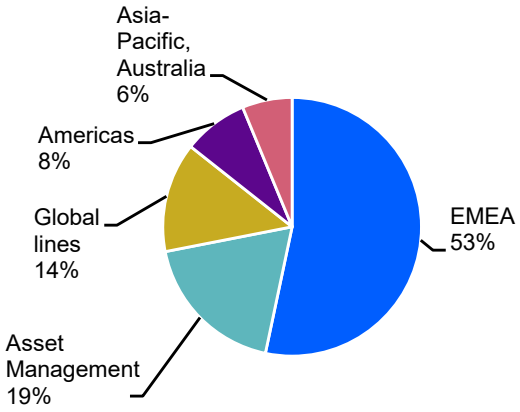
In L&H, operating profit remained strong, supported by higher CSM release. Allianz benefits from a very diversified client base and a good control of its distribution overall, limiting surrender risk. Revenues have rebounded since 2024 and, because most of the profits are generated from inforce CSM, any short term decline in new business has little impact on operating profits. The group's CSM (a measure of future profits) is also relatively resilient against financial market stress, with the largest sensitivity being against equity markets. Allianz expects its CSM to grow by around 5% per annum, while around 8% to 9% of the CSM will be released through profits every year.

Exhibit 6
Operating profit by line of business, December 31, 2025
Total operating profit: €17.4 billion



Operating profit split excludes corporate, consolidation and other.
Sources: Company reports, Moody's Ratings

Exhibit 7
Operating profit by geography, December 31, 2025
Total operating profit: €17.4 billion



Operating profit split excludes corporate, consolidation and other.
Sources: Company reports, Moody's Ratings

Liquidity & Asset Liability Management: Low liquidity risk and strong ALM capabilities
Our assigned score of Aa, in line with the unadjusted score, reflects Allianz's very strong ALM capabilities, with life guaranteed rate commitments that are well covered. Yields on reinvestments and new investments have improved recently in line with market developments, resulting in an improved spread between the current yield and the average guaranteed rate. The group also maintains a very low duration gap between assets and liabilities.

Liquidity of the group is very strong (also see section liquidity profile below). While Allianz has operations in France and Italy, countries where surrender risk is high, the risk is mitigated by a strong control of the distribution overall in these two countries. Surrender rates increased in specific portfolios distributed through banks in 2022-2023, but this remained small at the level of the group.

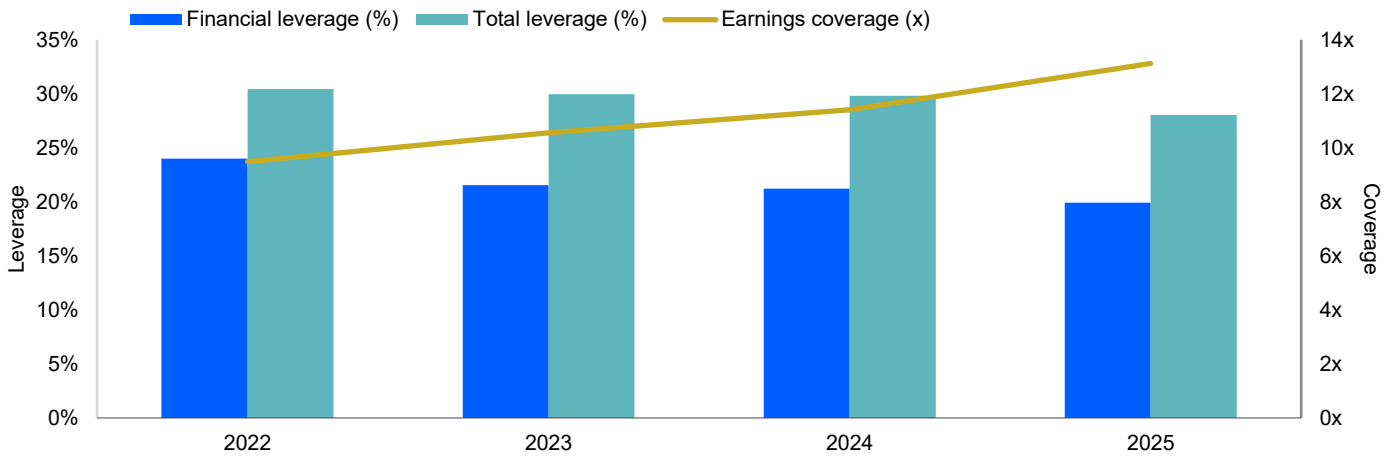
Reserve Adequacy: Consistently favourable reserve development
Our assigned score is Aa, in line with the unadjusted, reflecting the group's consistent reserve releases over the last ten years. On average, prior year releases meaningfully benefit its combined ratio by around 3% points in line with normal expectation.

While the proportion of commercial/specialised risks in Allianz's business mix is meaningful, and these segments carry a higher level of reserving risk, Allianz benefits from a very diversified book of business overall. Going forward, we expect the group will continue to report reserve releases.

Financial Flexibility: Very strong access and healthy leverage and coverage ratios
Our assigned score of Aa, in line with the unadjusted score, reflects the group's very strong financial flexibility, supported by leverage and earnings coverage metrics, as well as frequent access to capital markets (Exhibit 8).

Allianz Group has historically been an active user of debt. Allianz SE either guarantees or directly issues most of the Group's debt, with a significant share of past debt issuance out of the vehicle Allianz Finance II B.V..

Exhibit 8
Financial Flexibility



Sources: Company reports, Moody's Ratings

The refinancing risk is limited in the coming few years, given Allianz's well balanced debt profile, cash position, access to capital markets and a track record of proactive refinancing.

Liquidity analysis

Allianz SE's primary source of cash-flow is from its directly and indirectly held participations in insurance operations. Allianz ultimately plans and manages the Allianz SE result in line with the liquidity needs of the group.

Allianz SE maintains a USD CP programme and Euro CP programme. USD CP is issued via vehicle Allianz Finance Corporation, whose very strong liquidity is supported by an unconditional and irrevocable guarantee from Allianz SE. The majority of US CP issuance is issued on a 2-day settlement basis. The group's Euro CP issuance programme is issued directly through Allianz SE.

Allianz SE as the group holding company and internal reinsurer maintains a significant level of highly liquid assets (cash, bonds, tradable equities) on its own balance sheet, in respect of shareholder funds and policyholder obligations, which could be used to support short-term liquidity needs at Allianz SE or its financing subsidiaries. Allianz SE also manages a cash pool which includes all German operating companies and the majority of European entities, such that liquid assets could be made available to the holding company from certain key subsidiaries at short notice. In addition, Allianz SE benefits from substantial committed, long-term bank credit lines and LOC facilities. Therefore, we believe the group is able to unambiguously meet all its near-term maturing obligations.

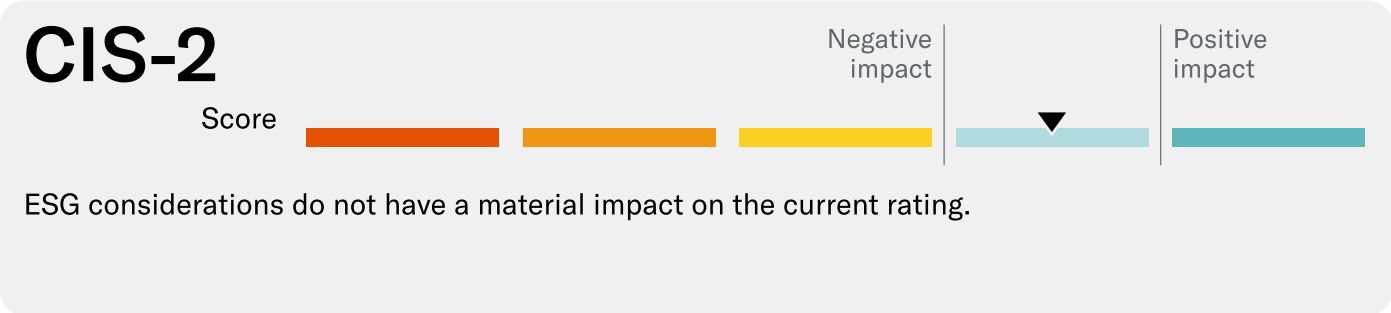
Structural considerations

Allianz SE is the ultimate holding company of the group and is also an operating company, however as such it only writes reinsurance business, most of which is intragroup. As a result of this special status, Allianz SE's insurance financial strength and senior debt ratings are assigned at the same level, Aa2, and the subordinated debt rating at A1(hyb). This is consistent with our standard notching approach for reinsurance operating companies. Allianz SE's restricted tier one notes are rated A3(hyb), based on a model which takes into account the group's creditworthiness as captured by the Aa2 and our expectation regarding future Solvency II ratios.

ESG considerations

Allianz SE's ESG credit impact score is CIS-2

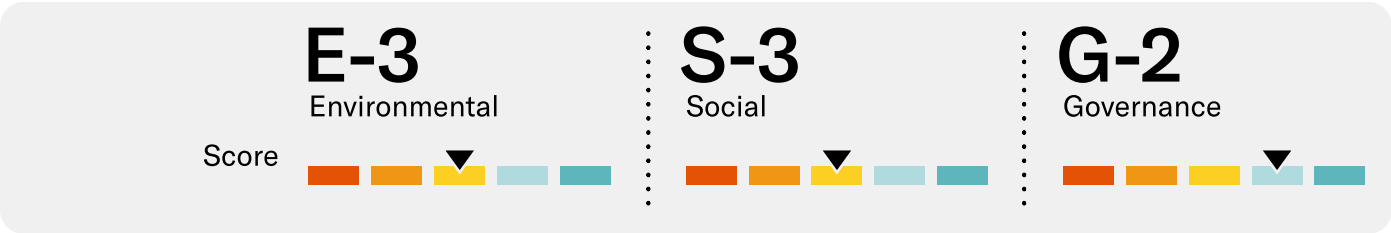
Exhibit 9
ESG credit impact score



Source: Moody's Ratings

Allianz's **CIS-2** indicates the limited impact of environmental social and governance factors on the rating to date. Allianz's strong risk management, effective governance and strong capitalization partially mitigate its environmental and social risks, in particular carbon transition risk, physical climate risk and customer relations risk.

Exhibit 10
ESG issuer profile scores



Source: Moody's Ratings

Environmental

Allianz has moderate environmental risks. The insurer is exposed to carbon transition risk through the assets held in its investment portfolio, particularly in its traditional life books with inherently high asset leverage, and strategic risk related to the increasing stakeholder focus on its environmental stewardship. Allianz manages these risks through its sophisticated risk and portfolio management capabilities, along with the increasing alignment of its business with the transition to a low-carbon economy. The asset management operations have low exposure to environmental risk. The P&C insurance business' exposure to physical climate risk is moderate in the context of the overall group and is managed through exposure diversification and reinsurance, as well as the ability to re-price exposures.

Social

Allianz has moderate exposure to social risks, in particular customer relations risk in relation to the sale of its products and the significant interaction with its retail customers, particularly in its life insurance and asset management businesses. In addition, as a globally diversified group, Allianz is exposed to various regulatory and legal regimes. Rising digitization and interconnectedness of devices will increase customer privacy and data security risks. Allianz is exposed to litigation and regulatory investigations related to a part of its asset management operations, which indicate higher risk related to the responsible production of financial products.

Governance

Allianz faces low governance risks, and its risk management, policies and procedures are in line with industry best practices. The group has a clear financial strategy, and its management has a strong track record of achieving business and financial objectives. As a

global multi-line financial services provider, Allianz has heightened organizational complexity and is exposed to potential compliance challenges, as is the case for its asset management operations.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click here to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Rating methodology and scorecard factors

Exhibit 11

Rating Factors

Financial Strength Rating Scorecard [1][2]	Aaa	Aa	A	Baa	Ba	B	Caa	Score	Adj Score
Business Profile								Aa	Aa
Market Position and Brand (20%)								Aa	Aa
-Relative Market Share Ratio		X							
Distribution (5%)								A	Aa
-Distribution Control				X					
-Diversity of Distribution			X						
Product Focus and Diversification (10%)								A	Aa
-Product Risk - P&C			X						
-Product Risk - Life				X					
-Product Diversification	X								
-Geographic Diversification		X							
Financial Profile								A	Aa
Asset Quality (10%)								Baa	A
-High Risk Assets % Shareholders' Equity					199.5%				
-Reinsurance Recoverables (or Reinsurance Contract Assets) / Shareholders' Equity	27.5%								
-Goodwill & Intangibles % Shareholders' Equity				46.6%					
Capital Adequacy (15%)								A	Aa
-Shareholders' Equity % Total Assets			7.9%						
Profitability (15%)								Aa	Aa
-Return on Capital (5 yr. avg.)		8.1%							
-Sharpe Ratio of ROC (5 yr.)	1040.9%								
Liquidity and Asset/Liability Management (5%)								Aa	Aa
-Liquid Assets % Liquid Liabilities		X							
Reserve Adequacy (5%)								Aa	Aa
-Net Loss Reserves Development / Beginning Net Loss Reserves (5 yr. wtd. avg.)		-2.4%							
Financial Flexibility (15%)								Aa	Aa
-Financial Leverage		19.9%							
-Total Leverage			28.0%						
-Earnings Coverage (5 yr. avg.)		11.1x							
Operating Environment								Aaa - A	Aaa - A
Preliminary Standalone Outcome								Aa3	Aa2
Other Considerations									
Management, Governance and Risk Management									
Accounting Policy & Disclosures									
Sovereign & Regulatory Environment									
Standalone Scorecard-indicated Outcome									Aa2
Support									
Nature and Terms of Explicit Support									
Nature and Terms of Implicit Support									
Scorecard-indicated Outcome									Aa2

[1] Information based on IFRS17 financial statements as of fiscal year ended December 31, 2025. [2] The Scorecard rating is an important component of the company's published rating, reflecting the standalone financial strength before other considerations (discussed above) are incorporated into the analysis.
Source: Moody's Ratings

Ratings

Exhibit 12

Category	Moody's Rating
ALLIANZ SE	
Rating Outlook	STA
Insurance Financial Strength	Aa2

Source: Moody's Ratings

Endnotes

1 Please note: the ratings and outlooks stated here are the current ones at the time of publication but might have changed since then

© 2026 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.
CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT CONSTITUTE OR PROVIDE LEGAL, COMPLIANCE, INVESTMENT, FINANCIAL OR OTHER PROFESSIONAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES OR OTHERWISE MAKES AVAILABLE ITS MATERIALS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.
MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND MATERIALS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR MATERIALS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.
ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.
MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.
All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating or assessment is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating or assessment process or in preparing its Materials.
To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating or assessment assigned by MOODY'S.
To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.
NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.
Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and all MCO entities that issue ratings under the "Moody's Ratings" brand name ("Moody's Ratings"), also maintain policies and procedures to address the independence of Moody's Ratings' credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at ir.moodys.com under the heading "Investor Relations — Corporate Governance — Charter and Governance Documents - Director and Shareholder Affiliation Policy."
Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V, I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., Moody's Local PA Calificadora de Riesgo S.A., Moody's Local CR Calificadora de Riesgo S.A., Moody's Local ES S.A. de CV Clasificadora de Riesgo, Moody's Local RD Sociedad Calificadora de Riesgo S.R.L. and Moody's Local GT S.A.(collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.
Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.
Additional terms for India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.
Additional terms with respect to Second Party Opinions and Net Zero Assessments (as defined in Moody's Ratings Rating Symbols and Definitions): Please note that neither a Second Party Opinion ("SPO") nor a Net Zero Assessment ("NZA") is a "credit rating". The issuance of SPOs and NZAs is not a regulated activity in many jurisdictions, including Singapore. EU: In the European Union, each of Moody's Deutschland GmbH and Moody's France SAS provide services as an external reviewer in accordance with the applicable requirements of the EU Green Bond Regulation. JAPAN: In Japan, development and provision of SPOs and NZAs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used

within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

REPORT NUMBER 1491936

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454