

Article Title: Criteria | Insurance | Bond: Methodology And Assumptions For Analyzing Bond Insurance Capital Adequacy Data: (EDITOR'S NOTE: —On June 21, 2023, we updated this article to fix a technical error that prevented the formula below paragraph 9 from displaying correctly.) OVERVIEW AND SCOPE 1. This article describes S&P; Global Ratings' criteria for analyzing the capital adequacy of bond insurers. The capital adequacy analysis compares bond insurers' available capital with their stressed losses on insured transactions. The results are applied in the insurance framework (see "Insurers Rating Methodology," listed in Related Criteria). 2. These criteria apply to bond insurers, financial guarantors, and companies with similar product offerings, as well as insurers or insurance groups for which bond insurance is a material part of the business. 3. This paragraph has been deleted. Key Publication Information Original publication date: July 1, 2019 These criteria address the fundamentals set out in "Principles of Credit Ratings," Feb. 16, 2011. METHODOLOGY 4. We analyze bond insurers' capital adequacy by comparing available capital with stressed losses on insured transactions. We determine stressed losses using transaction-based capital charges (which we assign to all insured transactions). 5. To determine a bond insurer's capital adequacy, we project revenues, expenses, assets, and liabilities during a four-year period of 'AAA' stress, as described below. We adjust revenues to reflect the decline in premiums because of the runoff of the insured book of business and an expected cessation of new business activity. We also adjust revenues for a decline in investment income, reflecting the sale of investments, if necessary, to pay claims. Claims reflect our expectations of losses over the period of stress. 6. Reinsurance moderates the claim payments, though credit for reinsurance is discounted to reflect the credit quality of the reinsurer. Operating expenses are projected to decline at the start of the period of stress based on the expectation that a halt to new business activity would reduce sales and marketing expenses. 7. If we believe a company's growth is likely to increase its risk exposure significantly (for example, a start-up insurer or a company that we expect to experience very rapid exposure growth), we would adjust the inforce insured exposure when determining stressed losses to include the potential growth that we expect over a three-year period (five years for a start-up insurer). This ensures we capture exposure growth that could occur before the start of the four-year period of stress. 8. When we include this period of growth, we also include our base-case assumption for changes in total adjusted capital (for example, net retained earnings). We typically assume the risk profile of the insured exposure (and investments) remains constant through the growth phase. For example, if we expect the inforce insured portfolio to grow 10% each year, we will multiply the insured exposures by 1.33x (or 1.61x for a start-up) for the purposes of determining stressed losses. 9. The analysis of a bond insurer's capital adequacy compares the resources it has available to absorb losses over the four-year period of stress with the theoretical 'AAA' stressed loss estimates of a bond insurer's portfolio of insured exposure. A capital adequacy ratio of 1.00x corresponds to capital sufficient to withstand losses under an extreme stress scenario (see "S&P; Global Ratings Definitions"). We calculate the capital adequacy ratio as follows: 10. Our projection of stressed losses is generally greater than those a bond insurer assumes. Therefore, loss reserves are included in the numerator when calculating the capital adequacy ratio. This methodology avoids the adverse impact on capital of assuming two different loss projections on the same insured exposure. We include loss reserves on the insurer's balance sheet at the start of the projection period for the capital analysis, and there are no additions or reductions to loss reserves during the four-year stress period. Capital Available 11. To determine ending capital, we project the change in capital over the period of stress and apply this to total adjusted capital (TAC) at the start of the stress period. For the four-year projection period, we apply our stress assumptions for premiums, investment income, asset losses, claims payments (net of reinsurance), expenses, and other items that we believe are likely to affect capital. 12. To determine TAC, we apply our risk-based insurance capital model criteria (see Related Criteria), with the following bond insurance-specific considerations: Do not write off deferred acquisition costs; Do not add time value of money considerations for loss reserves and unearned premium reserves; and Give credit for tax loss carrybacks and carryforwards to account for taxes paid that may be recaptured and credits that may be applied as permitted by the applicable tax code based on our modelled results. (We do not otherwise give credit for net operating loss carryforwards in the balance sheet.) 13. While bond insurers may report using different methods of accounting, we may make adjustments to account for other balance sheet items, where necessary, to either include or exclude

these from our view of capital. Capital Charges On Insured Exposures Public finance and corporate transactions 14. We apply capital charges to all insured transactions. Capital charges are the key variable to determine losses. 15. The capital charges are calibrated to represent the potential losses in a stress scenario of 'AAA' severity (see table 1). Example Of How We Develop The Capital Charges For U.S. Municipal Exposures To develop the capital charges, we used a stochastic model to evaluate the performance of a hypothetical, well-diversified pool of equal-size assets evenly distributed across 50 states, three territories, and six not-for-profit industry groupings. The ratings on the assets in the hypothetical pool ranged from 'AAA' to 'B', and the average maturity was 15 years. Although U.S. municipal bonds, when issued, typically have maturities of 25-30 years, historically, the bond insurers' weighted average tenor of their insured exposure has been approximately 15 years. The starting point for the credit risk analysis of the portfolio of assets is deriving the scenario default rates (SDR) on the asset pool. The correlation factors used to derive the SDRs reflect our opinion that bond insurers' insured portfolios are typically much more diverse by geography and sector than for a portfolio of municipal debt in a CDO. We then apply loss given default assumptions (based on our recovery rate assumption) to the SDRs to determine stressed loss rates (the capital charges). The recovery rates reflect our opinion that the value of an insurer's control rights, loss-mitigation efforts, risk management, underwriting, and active surveillance of the insured portfolio will lead to lower loss given default than for a portfolio of municipal debt in a CDO. 16. For U.S. municipal and non-U.S. local and regional government (LRG) bonds, we use risk categories (1-4) to represent the stressed losses (i.e., scenario default rate and loss given default) that are expected to be realized in a 'AAA' stress scenario (see table 1). Risk category 1 obligations generally have the highest recoveries because of the nature of the funds from which these obligations can be repaid. Recoveries for risk categories 1, 2, and 3 are typically higher than for corporate assets given the ability of a public finance entity to maintain its operations and generate additional revenues for eventual repayment. Issuers in risk category 4 are more corporate-like, in our view, and have lower recovery assumptions. 17. For insured corporate and non-LRG public finance bonds, we group our stressed loss assumptions (into groups A, B, and C) based on our analyses of different countries' insolvency legal frameworks. We consider this framework a good indication of the varying rights creditors have to secure their claims and realize a recovery. For more information regarding each group's insolvency framework, see "Jurisdiction Ranking Assessments Update: September 2022." 18. We apply the capital charges in table 1 to insured transactions to determine potential losses in a 'AAA' stress scenario. The capital charge used to determine losses is the weighted-average capital charge of debt service coming due. For a portfolio of insured municipal and corporate debt, the average annual debt service number used for determining losses is the projected average annual debt service (principal and interest) over a five-year or 15-year period, whichever is highest. Table 1 Capital Charges (Annual Average Debt Service-Based) (%) AAA AA A BBB BB B CCC U.S. MUNICIPAL AND NON-U.S. LRG OBLIGORS Category 1 3 5 9 15 28 38 47 Category 2 6 11 18 31 56 77 94 Category 3 12 21 35 62 112 153 188 Category 4 20 36 60 105 191 260 320 CORPORATE AND NON-LRG PUBLIC-SECTOR OBLIGORS Senior secured covenant-lite loans/senior secured bonds Group A 20 36 60 105 191 260 320 Group B 25 46 76 133 241 329 405 Group C 34 61 103 179 325 444 546 Mezzanine/second-lien/senior unsecured loans/senior unsecured bonds Group A 33 60 101 176 320 437 537 Group B 36 66 110 192 348 475 584 Group C 38 69 115 201 365 498 612 Note: For U.S. municipal and non-U.S. LRG obligor risk category groupings, see related guidance document. For groups A, B, and C, refer to our jurisdiction ranking assessments, "Methodology: Jurisdiction Ranking Assessments" and "Jurisdiction Ranking Assessments Update: September 2022." LRG--Local and regional government. 19. In instances where a par-based capital charge is more appropriate for such insured public finance and corporate debt (e.g., for zero coupon debt or short-dated securities), the capital charges in table 2 will be used. The par exposure number used for determining losses is the par outstanding for such securities at the start of the stress period. The capital charge used to determine losses is the weighted-average capital charge based on the par outstanding of the relevant public finance and corporate exposure at the beginning of the stress period. We apply the weighted-average capital charge to the par outstanding to determine total stressed losses. Table 2 Capital Charges (Par-Based) (%) AAA AA A BBB BB B CCC U.S. MUNICIPAL AND NON-U.S. LRG OBLIGORS Category 1 0.3 0.5 0.8 1.4 2.6 3.5 4.3 Category 2 0.5 1.0 1.6 2.8 5.1 7.0

8.6 Category 3 1.1 1.9 3.2 5.6 10.2 13.9 17.1 Category 4 1.8 3.3 5.5 9.6 17.3 23.7 29.1 CORPORATE AND NON-LRG PUBLIC-SECTOR OBLIGORS Senior secured covenant-lite loans/senior secured bonds Group A 1.8 3.3 5.5 9.6 17.3 23.7 29.1 Group B 2.3 4.2 6.9 12.1 21.9 30.0 36.8 Group C 3.0 5.6 9.3 16.3 29.6 40.4 49.6 Mezzanine/second-lien/senior unsecured loans/senior unsecured bonds Group A 3.0 5.5 9.2 16.0 29.1 39.7 48.8 Group B 3.3 6.0 10.0 17.4 31.6 43.2 53.1 Group C 3.4 6.3 10.5 18.3 33.2 45.3 55.6 Note: For U.S. municipal and non-U.S. LRG obligor risk category groupings, see related guidance document. For groups A, B, and C, refer to our jurisdiction ranking assessments, "Methodology: Jurisdiction Ranking Assessments" and "Jurisdiction Ranking Assessments Update: September 2022." LRG--Local and regional government. 20. In some instances, U.S. and non-U.S. obligations may be assigned to a category, group, or asset type for which the stressed loss assumption for the obligation more closely aligns with the specific characteristics of the issuer. If the underlying U.S. municipal or LRG sector exposure is not listed in the related guidance (see "Guidance: Methodology And Assumptions For Analyzing Bond Insurance Capital Adequacy"), we typically apply the charges for category 4 exposures. For countries that do not have jurisdictional ranking assessments, we typically apply the charges for group C exposures. 21. If the underlying transaction is unrated, the underlying rating input is determined based on the methodology outlined in the "Appendix I: Rating Inputs" section. 22. Debt-service reserve funds: If an insurer has issued a surety policy to meet an issuer's debt-service reserve (DSR) fund requirement, losses on those policies are projected to occur in the first year of the period of stress. This reflects the expectation that these funds would be used first to meet debt service when an issuer defaults. The capital charge for debt-service reserve policies would be the capital charges in table 2, applied to the entire amount of the surety policy. If an insured transaction is supported by a DSR and the insurer provides a surety for the DSR, there is no additional capital charge for the DSR exposure. Project finance transactions 23. The capital charge for project finance transactions is a product of: The scenario default rate; and Loss given default (1 – recovery rate). 24. The 15-year scenario default rate varies by rating category. It does not vary between different projects that have the same ratings. The loss given default factor is transaction specific, however, because each project has a unique combination of asset-related risks and contractual, financing, and legal issues. Consequently, the capital charge varies across asset classes and primarily reflects differences in the recovery potential. 25. Once the two factors have been determined, the capital charge for issues is a percentage of the par value. 26. The capital charge is dynamic, reflecting changes in the underlying project's likelihood of default or recovery prospects. 27. S&P; Global's corporate default studies identify the highest historical default rates across various sectors by rating category. The leading global economies have not experienced a 'AAA' stress scenario since our current default studies began in 1981. Therefore, we assume the scenario default rates for each rating category as shown in table 3. Table 3 Scenario Default Rates RATING CATEGORY SCENARIO DEFAULT RATE (%) AAA 5.3 AA 9.7 A 16.1 BBB 28.1 BB 51.0 B 69.7 CCC 85.6 28. Loss given default is unique for each project. It can differ between two assets in the same sector and jurisdiction. The degrees of confidence regarding recovery can also vary. For the purposes of determining a capital charge, the recovery rate assumption for each project is determined as follows, but in all cases we typically assume a maximum recovery of 90%: If there is an S&P; Global Ratings' recovery rate assumption, this is the recovery rate assumption. If no such recovery rate assumption exists (for example, for an unrated project), we will either: apply the methodology for determining recovery rate expectations in our project finance framework (see the project finance methodology article listed in Related Criteria); or base the recovery rate assumption on a similar transaction under a similar creditor regime, and apply analytical judgement to account for differences in financing and structural aspects. 29. This example shows how the capital charge on a project is determined. The steps are: determine the underlying rating on the project, apply the scenario default rate from table 3, estimate the loss given default, and determine the capital charge. The project's underlying rating in this example is 'A'. The scenario default rate for the 'A' rating category is 16.1%. The asset recovery assumption is 60%. The loss given default is 40% (100% minus 60%). The capital charge is 16.1% multiplied by 40%: 6.44% of the par value. 30. If the underlying transaction is unrated, the underlying rating input is determined based on the methodology outlined in the "Appendix I: Rating Inputs" section for corporate and government ratings. Structured finance transactions 31. The par exposure number used for determining losses is derived by determining an average of the par

outstanding in each year of the stress period. We calculate the average of the par outstanding at the beginning of the year and the par outstanding at the end of the year after allowing for insured par runoff. The capital charge used to determine losses is the weighted-average capital charge based on the par of the entire structured finance exposure at the beginning of the stress period. We apply the weighted-average capital charge to the average par outstanding to determine total stressed losses. 32. For insured structured finance transactions, the risk to the insurer is a function of the amount of credit protection (the credit enhancement level) in place in the transaction ahead of the bond insurer's payment obligation. The greater the protection within the transaction, the lower the risk to the bond insurer. 33. In calculating the structured finance capital charge, we first determine the credit gap, which is the difference between the hypothetical 'AAA' credit enhancement and the actual credit enhancement in the transaction, both expressed as a percentage of par. The credit gap is an estimate of the extreme stress case loss that the insurer could incur on that transaction. We then divide the credit gap by three to reflect the value of diversification. We consider it unlikely that, for a portfolio diversified by asset type, geography, originator/servicer, and origination date, the transactions will all default at the same time. 34. For transactions with speculative-grade underlying ratings, determining the capital charge is a two-step process. First, we determine the credit gap between 'AAA' and 'BBB-' levels of credit enhancement and divide this by three. Next, we determine the difference between the hypothetical 'BBB-' credit enhancement and the actual credit enhancement in the transaction. We do not divide the speculative-grade credit gap by three. The capital charge is the sum of these two calculations. 35. The minimum capital charge for any structured finance transaction, regardless of how high the underlying rating, is 1% of par. 36. If the underlying rating input cannot be determined, then the capital charge is 100% of the par exposure. Other considerations 37. A bond insurer may have unique risks that we choose to capture by reclassifying exposures to alternative asset classes, risk categories, or groups than the ones we typically use. We do this to reflect our expectation of materially and consistently higher or lower losses for that unique set of exposures than likely would be the case for the typical exposure. Reinsurance 38. We give credit for business that a bond insurer has ceded through reinsurance. We treat regular reinsurance as reductions to overall losses. 39. Credit for reinsurance ceded is based on the credit quality of the reinsurer. 'AAA' gets 95% credit, 'AA' 65% credit, and 'A' 45% credit. No credit is given for ceding to reinsurers rated 'BBB' or lower. 40. Collateral in a trust isolated from the reinsurer, available to the ceding company on demand, can enhance the credit given for reinsurance. Credit is determined on a case-by-case basis. Assumptions Relating To Projections Insured loss pattern 41. For public finance, corporate, and project finance transactions, the loss pattern for total losses during the stress period is: depression year one, 8% of total losses; depression year two, 11%; depression year three, 30%; and depression year four, 51%. So, by year four of the stress period, an insurer would have experienced 100% of the stressed losses. 42. For structured finance transactions, the incidence of loss is 25% in each year of the stress period. Asset risk 43. During a period of stress, a bond insurer's operational cash inflows may be insufficient to pay all assumed losses, requiring it to liquidate its investment portfolio to generate cash. To capture the potential stressed asset losses that a bond insurer could incur, we apply market risk charges to certain assets, as defined in Appendix 4 of our risk-based insurance capital model criteria (see Related Criteria), which apply to bond insurers in all geographic regions. 44. The analysis is based on the following assumptions: Cash outflows in each year of the stress are influenced by our insured loss pattern assumptions; Investment income is available to meet claims payments but is reduced in each year of the projection to reflect the smaller asset base owing to stressed claims payments; Additional cash inflows and outflows may include items such as installment premiums, expenses, capital distributions, and off-balance-sheet capital facilities; Any residual cash needs to meet claims payments are met by liquidating assets in the following sequence: 1) cash and deposits that include cash from maturing assets in each of the four years of the stress period, 2) equity investments, 3) bonds (starting with short-term bonds and moving along the term structure), and 4) other assets. 45. We apply market risk charges to the liquidated assets in each year of the stress (other than cash and deposits, and bonds that are assumed to mature prior to claims payment). 46. In the final year of the stress, we also apply credit risk charges to the opening balance sheet value of relevant assets to capture counterparty risk during the period of stress (see the risk-based insurance capital model criteria, in Related Criteria).

Premiums written and earned 47. Premiums written as installments are earned in the same year they are received. Upfront premiums represented by the unearned premium reserve are earned at the rate prescribed by the accounting regime used in our determination of TAC. Underwriting expenses 48. Underwriting expenses during the stress period decline in the following pattern: Year 1 - 93% of expenses in the year prior to the period of stress; Year 2 - 89% of expenses in the year prior to the period of stress; Year 3 - 70% of expenses in the year prior to the period of stress; and Year 4 - 48% of expenses in the year prior to the period of stress. APPENDIXES Appendix I: Rating Inputs 49. S&P; Global Ratings has developed several methods to determine an insured bond's underlying creditworthiness and associated loss potential for the purpose of applying tables 1, 2, and 3. The following is a brief description of the methodology used to determine an insured bond's rating input (or capital charge) if unrated. Corporate and government ratings 50. If there is an S&P; Global Ratings issue rating or an S&P; underlying issue credit rating (SPUR), then that rating is the rating input. 51. If there is no issue rating for a senior bond, the long-term issuer credit rating is the rating input. If there is no issue rating for a subordinated bond, the rating input is one notch below an investment-grade long-term issuer credit rating or two notches below a speculative-grade long-term issuer credit rating. 52. If no such rating, or SPUR, is available, we typically use an alternative measure of credit quality, such as a credit estimate. When warranted, we may adjust the alternative measure of credit quality down by up to one category (for example, to reflect the risk of adverse selection). 53. In some cases, there may be no rating or alternative measure of credit quality, such as a credit estimate, but there is another CRA (credit rating agency) rating on the issue or issuer based on its underlying credit quality--and not on the credit enhancement from a bond insurer--that is public and unqualified. In these cases, if we have determined that a mapping is possible for that CRA (see "Mapping A Third Party's Internal Credit Scoring System"), then we determine the corresponding rating input by applying the statistical analysis described in our mapping criteria to the credit rating scale of the other CRA (see the "CRA mapping" section of the related guidance). We use the output of the analysis to derive the adjustment, if any, to the other CRA's credit ratings for determining a rating input. When the issuer or issue has ratings from multiple CRAs, the lowest is used. 54. The portion of the principal balance of the insured bonds that has rating inputs assigned in this way may not exceed 25%, with a 5% per-issuer limit. Excess exposure is treated as below. Bond insurers will be asked to confirm whether this information is available. 55. If none of the measures of creditworthiness above are available, but we have assessed the economic risk for the country of exposure under our Banking Industry Country Risk Assessment (BICRA) criteria, we determine the capital charges for the unrated exposures according to tables 4-5.

Table 4 Average Annual Debt Service-Based Capital Charges Based On BICRA Economic Risk Group --ECONOMIC RISK GROUP--

	1	2	3	4	5	6	7	8	9	10
U.S. MUNICIPAL AND NON-U.S. LRGS Category 1	28	30	31	33	35	37	40	42	44	47
Category 2	56	59	63	67	71	75	79	84	89	94
Category 3	112	119	126	133	141	150	159	168	178	188
Category 4	191	202	214	227	240	254	269	285	302	320

CORPORATE DEBT AND NON-LRG PUBLIC-SECTOR OBLIGORS Senior secured covenant-lite loans/senior secured bonds Group A 191 202 214 227 240 254 269 285 302 320 Group B 241 256 271 287 304 322 341 361 382 405 Group C 326 345 365 387 410 434 460 487 516 546

Mezzanine/second-lien/senior unsecured loans/senior unsecured bonds Group A 320 339 359 380 403 427 452 479 507 537 Group B 348 368 390 413 438 463 491 520 551 584 Group C 365 387 410 434 460 487 516 546 579 612

Note: For U.S. municipal and non-U.S. LRG obligor risk category groupings, see related guidance document. For groups A, B, and C, refer to our jurisdiction ranking assessments, "Methodology: Jurisdiction Ranking Assessments" and "Jurisdiction Ranking Assessments Update: September 2022."

LRG--Local and regional government. Table 5 Par-Based Capital Charges Based On BICRA Economic Risk Group --ECONOMIC RISK GROUP--

	1	2	3	4	5	6	7	8	9	10
U.S. MUNICIPAL AND NON-U.S. LRGS Category 1	2.6	2.7	2.9	3.2	3.4	3.6	3.8	4.1	4.3	
Category 2	5.1	5.4	5.7	6.1	6.4	6.8	7.2	7.6	8.1	8.6
Category 3	10.2	10.8	11.4	12.1	12.8	13.6	14.4	15.3	16.2	17.1
Category 4	17.3	18.4	19.5	20.6	21.8	23.1	24.5	25.9	27.5	29.1

CORPORATE DEBT AND NON-LRG PUBLIC-SECTOR OBLIGORS Senior secured covenant-lite loans/senior secured bonds Group A 17.3 18.4 19.5 20.6 21.8 23.1 24.5 25.9 27.5 29.1 Group B 21.9 23.2 24.6 26.1 27.6 29.2 31 32.8 34.8 36.8 Group C 29.6 31.3 33.2 35.2 37.2 39.5 41.8 44.3 46.9 49.6

Mezzanine/second-lien/senior unsecured loans/senior unsecured bonds Group A 29.1 30.8 32.6 34.6 36.6 38.8 41.1 43.5 46.1 48.8 Group B 31.6 33.5 35.5

37.6 39.8 42.1 44.6 47.3 50.1 53.1 Group C 33.2 35.2 37.2 39.5 41.8 44.3 46.9 49.7 52.6 55.6 Note: For U.S. municipal and non-U.S. LRG obligor risk category groupings, see related guidance document. For groups A, B, and C, refer to our jurisdiction ranking assessments, "Methodology: Jurisdiction Ranking Assessments" and "Jurisdiction Ranking Assessments Update: September 2022." LRG--Local and regional government. 56. For insured bonds whose rating input (or capital charge) cannot be determined using any of the steps described above, the corresponding rating input is 'CCC'. Appendix II: U.S. Public Finance and Non-U.S. LRG Risk Categories 57. For the purposes of our bond insurance capital adequacy criteria, we place U.S. municipal and non-U.S. local and regional government bonds into risk categories to represent the stressed losses (i.e., scenario default rate and loss given default) that are expected to be realized in a 'AAA' stress scenario. Our recovery analysis divides the U.S. public finance (USPF) and non-U.S. LRG debt market into four groupings, each with its own expected recovery rate parameters. Table 6 (for USPF) and table 7 (for non-U.S. LRGs) illustrate the groupings and the public-finance sectors that are within each risk category. 58. Risk category 1 obligations generally have the highest recoveries because of the nature of the funds from which these obligations can be repaid, unless, for example, a foreign currency obligation of a non-U.S. LRG obligor is exposed to potential local currency stress. In that case, we consider recovery to be lower and similar to risk category 2 with no currency risk/stress. 59. Recoveries for risk categories 1, 2, and 3 are higher than for corporate assets given the ability of a municipal entity to maintain its operations and generate additional revenues for eventual repayment. Issuers within risk category 4 are more corporate-like, in our view, and have lower recovery assumptions. Table 6 Table 7 Non-U.S. LRG Obligors RISK CATEGORY SECTORS¶ 1 Local-currency debt issues of LRG obligors operating in institutional frameworks with an institutional framework score of 1 or 2* 1 Foreign-currency debt issues of LRG obligors operating in institutional frameworks with an institutional framework score of 1 or 2* in countries that are members of a monetary union or have a reserve currency 2 Foreign-currency debt issues of LRG obligors operating in institutional frameworks with an institutional framework score of 1 or 2* in countries that are not a member of a monetary union and do not have a reserve currency 2 Local-currency debt issues of LRG obligors operating in institutional frameworks with an institutional framework score of 3-6* 2 Foreign-currency debt issues of LRG obligors operating in institutional frameworks with an institutional framework score of 3-6* in countries that are members of a monetary union or have a reserve currency 3 Foreign-currency debt issues of LRG obligors operating in institutional frameworks with an institutional framework score of 3-6* in countries that are not a member of a monetary union and do not have a reserve currency Risk category 4 is not applicable for non-U.S. LRG obligors. *For information on institutional framework scores, see "Methodology For Rating Local And Regional Governments Outside Of The U.S." ¶¶For more information on the classification of sectors, see "Methodology and Assumptions for Assessing Portfolios of International Public Sector And Other Debt Obligations Backing Covered Bonds And Structured Finance Securities." Appendix III: CRA Mapping--Corporate And Government Ratings 60. If we have determined that a mapping is possible for a CRA (see "Mapping A Third Party's Internal Credit Scoring System"), then we may determine the corresponding rating input by applying the statistical analysis described in step 3 of our mapping criteria to the credit rating scale of the other CRA. All CRAs are eligible for consideration when assessing the underlying rating input for unrated exposures. We have completed a mapping of Moody's and Fitch ratings in scope of this section as of the date of publication. When we apply the criteria relating to other CRAs (see "Appendix I: Rating Inputs" in the criteria), we look to the long-term Moody's or Fitch issuer or issue rating. We then lower it by one notch for investment-grade ratings and by two notches for speculative-grade ratings to determine the rating input. When the issuer or issue has ratings from multiple CRAs, the lowest of all the notched ratings is used. Appendix IV: Glossary Loss reserves 61. The liability recorded on the balance sheet for unpaid losses. The loss reserve consists of the case reserves, the reserves for claims known to the company but not yet paid, and the reserves for incurred but not reported losses (IBNR). Projected paid and incurred losses 62. The 'AAA' stressed loss estimates of a bond insurer's portfolio of insured exposure over a four-year projection period. REVISIONS AND UPDATES This article was originally published on July 1, 2019. Changes introduced after original publication: On Aug. 24, 2020, we republished this criteria article to make nonmaterial changes. We deleted paragraph 3 and the "Criteria Changes And Impact On Outstanding Ratings"

section, which pertained to the initial publication of the criteria. On Feb. 18, 2021, we republished this criteria article to make nonmaterial changes to update the contact list. On Dec. 13, 2021, we republished this criteria article to make nonmaterial changes to update criteria references. On Jan. 20, 2023, we republished this criteria article to make nonmaterial changes to update the contact list, criteria and related research references, and related publications. On June 15, 2023, we republished this criteria article to make nonmaterial changes. As announced in "Evolution Of The Methodologies Framework: Introducing Sector And Industry Variables Reports," Oct. 1, 2021, S&P; Global Ratings is phasing out Guidance documents over time. As part of that process, we have archived the Bond Insurance Capital Adequacy Guidance and included its content without any substantive changes in new appendices II and III, and as a result, we updated the paragraph numbers and renumbered the Glossary appendix. We also updated the "Key Publication Information" section. Finally, we updated the "Related Publications" section and the article references in Table 7. On June 21, 2023, we updated this article to fix a technical error that prevented the formula below paragraph 9 from displaying correctly.

RELATED PUBLICATIONS Fully Superseded Criteria Methodology And Assumptions: Industry and Country Risk Assessment For Bond Insurers, Sept. 16, 2014 Bond Insurance Rating Methodology And Assumptions, Aug. 25, 2011 Standard & Poor's Methodology For Setting The Capital Charge on Project Finance Transactions, Sept. 12, 2007 Related Criteria General Project Finance Rating Methodology, Dec. 14, 2022 Banking Industry Country Risk Assessment Methodology And Assumptions, Dec. 9, 2021 Methodology For Rating Local And Regional Governments Outside Of The U.S., July 15, 2019 Insurers Rating Methodology, July 1, 2019 Methodology: Jurisdiction Ranking Assessments, Jan. 20, 2016 Methodology And Assumptions For Assessing Portfolios Of International Public Sector And Other Debt Obligations Backing Covered Bonds And Structured Finance Securities, Dec. 9, 2014 Mapping A Third Party's Internal Credit Scoring System To Standard & Poor's Global Rating Scale, May 8, 2014 Principles Of Credit Ratings, Feb. 16, 2011 Refined Methodology And Assumptions For Analyzing Insurer Capital Adequacy Using The Risk-Based Insurance Capital Model, June 7, 2010 Related Research Jurisdiction Ranking Assessments Update: September 2022, Sept. 15, 2022 Evolution Of The Methodologies Framework: Introducing Sector And Industry Variables Reports, Oct. 1, 2021