

### Criteria | Insurance | Bond:

# Bond Insurance Rating Methodology And Assumptions

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# Bond Insurance Rating Methodology And Assumptions

## I. INTRODUCTION

1. Standard & Poor's Ratings Services is updating its methodologies and assumptions for rating bond insurers. This update follows the request for comment (RfC), "Bond Insurance Criteria," published Jan. 24, 2011, on RatingsDirect on the Global Credit Portal. This is a significant recalibration of bond insurance criteria and is intended to enhance the comparability of bond insurer ratings with ratings in other sectors, such as corporates, municipals, sovereigns, collateralized debt obligations (CDOs), and other areas of insurance ratings (see "Understanding Standard & Poor's Rating Definitions," June 3, 2009). This constitutes specific methodologies and assumptions consistent with "Principles Of Credit Ratings," published Feb. 16, 2011.
2. In addition, this article describes the introduction of a business risk profile/financial risk profile ratings framework and sub-factors into bond insurance criteria. This framework and these ratings sub-factors will govern the process for rating bond insurers. This article also expands the criteria to incorporate an industry risk component, an explanation of leverage and largest obligors tests, a discussion of enterprise risk management (ERM) for bond insurers, and a section on rating start-up bond insurers. The criteria elements of management and corporate strategy, industry risk, competitive position, operating performance, investments, capital adequacy, liquidity, and financial flexibility are also updated and now include metrics for evaluating the sub-factors within each of these categories.
3. This criteria article supersedes the methodology and assumptions for rating bond insurers in the articles listed in Part VIII: Related Criteria And Research.

## II. SCOPE OF THE CRITERIA

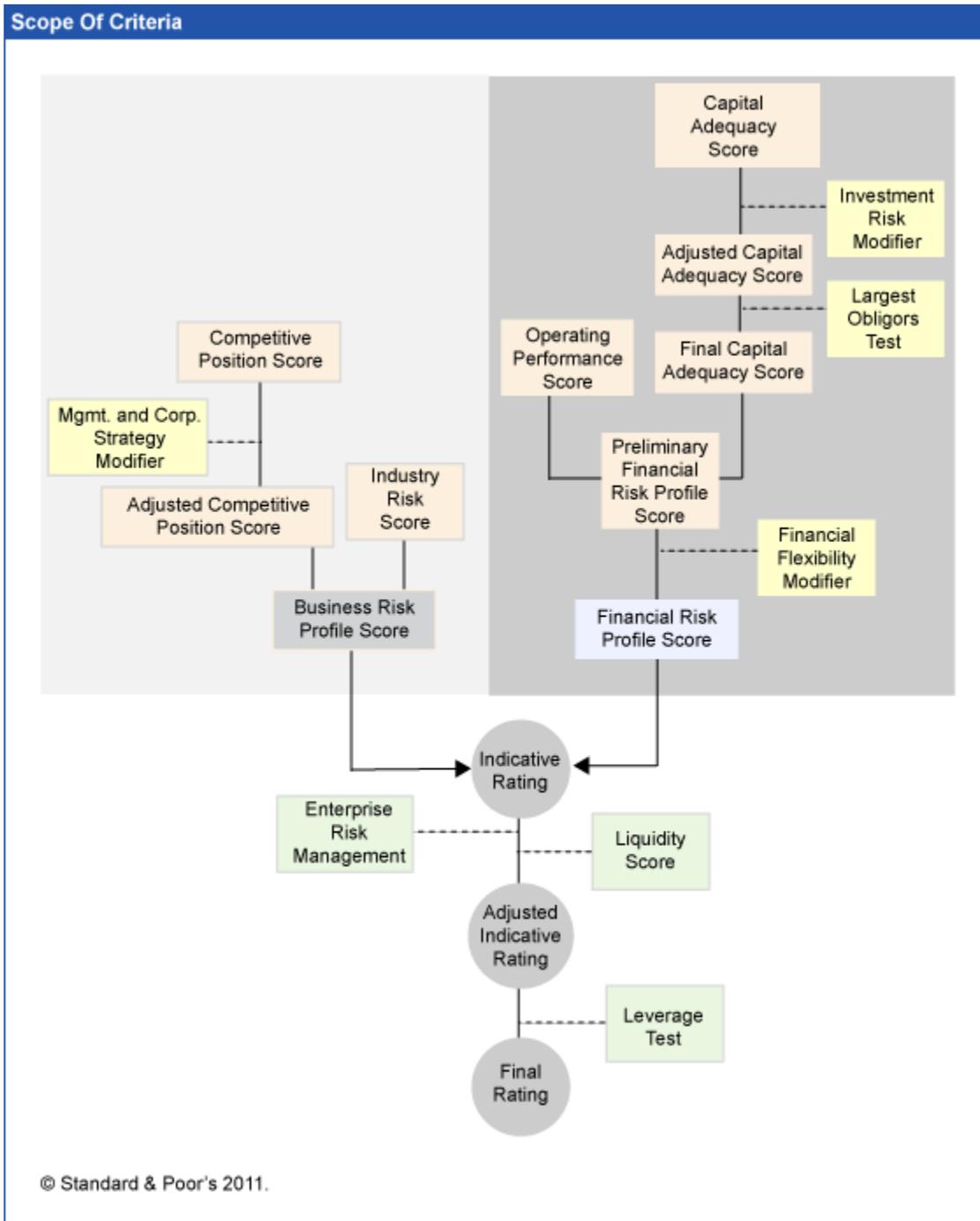
4. These criteria apply to ratings on all bond insurers or companies with similar strategies or product offerings, such as some derivative products companies.

## III. SUMMARY

5. These criteria define a comprehensive process that considers a common set of 11 analytic categories used to form the rating conclusion. The analytic categories considered are industry risk, competitive position, management and corporate strategy, operating performance, capital adequacy, investments, largest obligors, financial flexibility, enterprise risk management, liquidity, and leverage. The process in these criteria then synthesizes these elements according to a common framework, which is divided into two major segments: financial risk profile and business risk profile.
6. These criteria include processes that address any identified risk or set of risks that—individually or in aggregate—could significantly impair a bond insurer's creditworthiness in stress scenarios. For example, the combination of high leverage (net par exposure relative to capital) employed by the insurer and an increased

correlation between individual issuers in stress scenarios is a significant risk to a company's creditworthiness. The increased correlation between issuers in times of stress can result in substantially greater projected losses versus what would have occurred with a lower correlation; the high leverage employed magnifies the impact of the greater losses on capital. Other examples of such vulnerabilities include significant calls on liquidity because of liquidity triggers, concentrations of large obligors, entering businesses with the potential for large losses, and risky investment strategies.

7. The business risk profile stems from the risk/return potential for markets in which the company participates, the competitive climate within those markets, and the competitive advantages and disadvantages the company offers within those markets. It further results from management's strategic positioning of the company, effectiveness in executing its strategy, and decisions and understanding of the risks it is willing to take.
8. The business risk profile is assessed within the context of the bond insurance business model, in which high leverage can accentuate the strain on capital in times of stress. When there is increased uncertainty, high leverage exposes a bond insurer to heightened losses that could reveal pricing and capital inadequacies, resulting in poor risk/return relationships. The sustainability of a bond insurer's competitive position before, during, and after a period of stress is a key consideration in the assessment.
9. The financial risk profile is the outgrowth of decisions that management makes in the context of its business risk profile and its risk tolerances, including decisions about the extent and manner in which the company is funded, how it has constructed its balance sheet, and the amount and kind of liquidity it maintains relative to its risks. It also reflects the operating margins management can achieve in the context of the choice of sectors it participates in, its growth strategies, and its risk/reward choices.
10. ERM is an analytical category that falls outside of the business risk profile and financial risk profile. The analysis of a firm's ERM practices allows for a prospective view of its risk profile and capital needs. The criteria evaluate whether a bond insurer executes risk management practices in a systematic, consistent, and strategic manner that facilitates the control of future losses within an optimal risk/reward framework. The assessment of a company's ERM could cap adjusted indicative ratings (see the chart for indicative ratings).
11. Liquidity is an analytical category that also falls outside of the business risk profile or the financial risk profile. Liquidity, which becomes critical when the company's operations are or are becoming stressed, also could cap adjusted indicative ratings subject to a company's liquidity assessment.
12. The leverage test is the final analytical category and could cap the final rating. The leverage test will act as a filter only for companies with credit characteristics otherwise consistent with a 'AAA' rating.
13. The chart illustrates the various analytical categories and how they are combined in developing the rating on a bond insurer. The methodology appears in greater detail in sub-part VII.A: Ratings Framework And Sub-Factors. Subsequent sections of this document describe the methodology for scoring each of the individual analytical categories.
14. The criteria use descriptive adjectives (such as, strong, adequate, favorable, and unfavorable) and corresponding numerical rankings to score the business risk profile and the financial risk profile. The criteria also use descriptive adjectives and corresponding numerical rankings to score 10 of the analytic categories.



#### IV. CHANGES FROM THE REQUEST FOR COMMENT

- As discussed in paragraphs 38-40, in determining the final rating, the leverage test will act as a filter only for companies with 'aaa' adjusted indicative ratings. To achieve and maintain a 'AAA' rating, there is a maximum leverage level of 75:1 for all risk categories. The test is limited to 'aaa' indicative ratings and 'AAA' rated insurers because there is the possibility of stress associated with either model error or event risk that, although remote, is not

otherwise captured by the 'AAA' stress scenario used in the criteria. Moreover, higher leverage would not be consistent with 'AAA' credit stability. Capital, the denominator of the leverage ratio, is defined as statutory capital and excludes loss and loss-adjustment expense (LAE) reserves and unearned premium reserves. Loss and LAE reserves are excluded because their inclusion would overstate the capacity of statutory capital to absorb future credit shocks. Consistent with "Request For Comment: Bond Insurance Criteria," published on Jan. 24, 2011, unearned premiums are not included in capital because there have been multiple instances where a regulator intervened despite the existence of significant unearned premium reserves. This test is focused on the possibility of regulatory intervention as opposed to an insurer's access to cash to pay claims.

16. As described in paragraphs 49-54, capital charges for all but structured finance securities were developed partly through the use of a stochastic model to evaluate the performance of a hypothetical, well-diversified pool of equal-sized U.S. municipal credits evenly distributed across 50 states, three territories, and six not-for-profit industry groupings. The model included the same asset default rate parameters used in rating corporate CDOs (see "Update To Global Methodologies And Assumptions For Corporate Cash Flow And Synthetic CDOs," Sept. 17, 2009). It assumes a systemic correlation between and within all assets in all states, territories, and not-for-profit industry groupings. The scenario default rates (SDRs) the model produces were adjusted for a high level of recoveries, as demonstrated in the George H. Hempel study, "The Postwar Quality of State and Local Debt." The capital charges reflect an assumption of recoveries better than those reported by Hempel because of the value of an insurer's control rights, loss-mitigation efforts, ERM strategy, underwriting, and active surveillance of the insured portfolio. This approach differs in two ways from the RfC, in which the capital charges were calibrated to the Hempel study gross depression losses and recoveries were not explicitly incorporated in the capital charges.
17. As described in paragraphs 73-79, the single-risk test has been adjusted to reflect and to be more consistent with the largest obligor test contained in CDO Evaluator. A largest obligors test is an effective analysis because it risk-adjusts large obligor exposures as opposed to simply aggregating all large exposures. The criteria now include a largest obligors test as a modifier to the capital adequacy score as opposed to an adjustment to capital in the capital adequacy model. In the test, net losses are aggregated by group for various groups of large obligors defined by rating ranges. The net loss is determined by using (1 minus recovery rates by risk categories). If the largest group loss exceeds 25% of statutory surplus, the test result would be scored least favorable. Otherwise, the score would be favorable. A least favorable score would add one point to the adjusted capital adequacy score, and a favorable score would have no impact on the adjusted capital adequacy score.
18. In Table 16, the statutory loss ratio most favorable score within the operating performance scoring was lowered to 10%. The loss ratio for a most favorable score was lowered to differentiate between exceptional performers and average performers. Historical data indicate that prior to 2007, the industry average loss ratio was approximately 12%, which is representative of a favorable score. The statutory combined ratio most favorable score was lowered to reflect the change in the statutory loss ratios. The statutory combined ratio was also moved to a key sub-factor score from a secondary sub-factor score to better reflect the importance of this ratio in the analysis of operating performance.
19. As shown in Table 13, the credit 'AA' and 'A' rated primary companies receive in the capital adequacy model for business ceded to higher or similarly rated reinsurers was increased. The increase in credit received is consistent with the view that the differential between a higher or similarly rated reinsurer and the primary insurer should be minimized. Supporting this view is that the level of certainty of performance of a reinsurer in different levels of stress does not change based on the rating on the primary insurer.

## V. IMPACT ON OUTSTANDING RATINGS

20. The ratings on investment-grade bond insurers could be lowered by one or more rating categories.

## VI. EFFECTIVE DATE AND TRANSITION

21. The criteria described in this article are effective immediately. We expect any rating changes to occur following our review of third-quarter 2011 financial statements, but no later than Nov. 30, 2011.

## VII. METHODOLOGY

### A) Ratings Framework And Sub-factors

22. In these criteria, the analysis of capital adequacy, operating performance, investments, financial flexibility, and largest obligors represents the analysis of a bond insurer's financial risk profile. The assessment of management and corporate strategy, industry risk, and competitive position represents the analysis of a bond insurer's business risk profile. The criteria combine the insurer's financial risk profile and business risk profile as part of the process of determining the indicative rating on a bond insurer. ERM and liquidity are additional analytical categories that fall outside of the business risk profile and financial risk profile, which are then applied to determine the adjusted indicative rating on a company. The leverage test will act as a filter only for companies with 'aaa' adjusted indicative ratings in determining the final rating.
23. In determining analytic scores for the components of the financial risk profile, the analysis tends to focus on quantitative measures, though qualitative factors—such as prospective financial flexibility or risk tolerance—are also considered. For the three analytic components included within the business risk profile, scores generally would be a blend of qualitative factors that distinguish industry risk and management and corporate strategy attributes as well as quantitative peer group data in determining competitive position.

#### **Determining the financial risk profile score**

24. Capital adequacy and operating performance are generally the most influential analytical categories within a company's financial risk profile. It is important to note, however, that the results of the capital adequacy model do not take precedence over a company's business risk profile. Separately, the quality of a bond insurer's capital is captured in the analysis of investment risk and financial flexibility.
25. The analysis of a bond insurer's capital adequacy compares the theoretical stressed loss estimates of a bond insurer's portfolio of risks with the resources it has available to absorb those losses. The capital adequacy scores are (1) extremely strong, (2) very strong, (3) strong, (4) adequate, (5) less vulnerable, and (6) more vulnerable. The full treatment of capital adequacy is the subject of paragraphs 41-72.
26. The assessment of capital adequacy can be modified by the evaluation of a bond insurer's investment risks. Investment risks—such as issuer and sector concentrations, investment portfolio and insured portfolio correlations, counterparty exposure, investment risk tolerance, and cash-flow mismatches—are risks that the analysis of capital adequacy does not fully capture but that could create capital shortfalls in stress scenarios. These investment factors are scored as (1) low to moderate, (2) high, or (3) very high risk. For an investment score of 3, the determination of

the capital score adjustment is based on the potential impact of any outside investment risks relative to capital. The combination of the assessment of these investment risks with that of capital adequacy produces a more comprehensive view of a bond insurer's overall capital adequacy (see Table 1). The full treatment of investment risk is the subject of paragraphs 90-97.

**Table 1**

<b>Adjusted Capital Adequacy Score—Investment Adjustments</b>			
<b>Capital adequacy score</b>	<b>—Investment score—</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
1	-	+1	+2 or more
2	-	+1	+2 or more
3	-	+1	+2 or more
4	-	+1	+2
5	-	+1	+1
6	-	-	-

See Table 9 for capital adequacy scoring methodology and Table 17 for investment scoring methodology.

27. The assessment of capital adequacy can also be modified by the evaluation of a bond insurer's exposure to concentrations of large obligors to arrive at a final capital adequacy score. The analysis of these concentrations focuses on a bond insurer's exposure to concentrations of large obligors in the event of defaults in a benign credit environment, where defaults are isolated events. The capital adequacy model, which focuses on a period of general economic stress, does not capture these risks. Exposure to the risks of concentrations of large obligors is measured as a percent of statutory capital and is scored as either 1) favorable or 2) least favorable. Including concentration risks produces a more comprehensive view of a bond insurer's overall capital adequacy (see Table 2). The full treatment of largest obligors risk is included in paragraphs 73-79. The highest rating possible for a bond insurer with a least favorable score on the largest obligors test is 'AA', except in circumstances where the insurer's financial flexibility is scored positive. It is unlikely, however, that an insurer could achieve a positive financial flexibility score if it had excessive concentrations of obligors.

**Table 2**

<b>Largest Obligors Test</b>	
<b>Largest obligors test scores can modify the adjusted capital adequacy score as follows:</b>	
1 (Favorable)	0
2 (Least favorable)	+1

28. Operating performance is the other prevailing component of the financial risk profile, as the demonstration of superior and stable operating performance supports a company's ability to generate capital internally, attract external capital, and reward stockholders with appropriate returns. The operating performance scores are (1) extremely strong, (2) very strong, (3) strong, (4) adequate, (5) less vulnerable, and (6) more vulnerable. The full treatment of operating performance is the subject of paragraphs 80-89.
29. The operating performance score and the final capital adequacy score are then merged to establish the preliminary financial risk profile score, as indicated in Table 3.

**Table 3**

<b>Preliminary Financial Risk Profile Score</b>						
<b>Operating performance score</b>	<b>—Final capital adequacy score—</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	1	2	3	3	5	6
2	1	2	3	4	5	6
3	2	2	3	4	5	6
4	3	3	3	4	5	6
5	4	4	5	5	5	6
6	5	5	5	6	6	6

See Table 15 for operating performance scoring methodology.

30. The evaluation of a bond insurer's financial flexibility identifies its ability to raise external capital or sell assets to raise cash relative to its potential needs (see Table 4). Financial flexibility is scored on a scale of (1) positive, (2) neutral, (3) marginally negative, and (4) negative. In the large majority of cases, for investment-grade companies, it is expected that a bond insurer's financial flexibility score will be neutral and have no impact on the preliminary financial risk profile score. However, financial flexibility will be scored marginally negative or negative in times of stress if the insurer or industry faces meaningful claim payments relating to insured exposure. An insurer would need high capital to maintain the rating but would have limited access to capital markets, given a likely decline in investor confidence. A score of marginally negative generally will increase (worsen) the preliminary score by one point (for example, a preliminary score of 5 becomes a financial risk profile score of 6). A financial flexibility score of negative generally will increase (worsen) the preliminary score by two points (for instance, a preliminary score of 3 becomes a financial risk profile score of 5). In rare circumstances, a positive financial flexibility score will improve the preliminary score one point (such as when a preliminary score of 3 becomes a financial risk profile score of 2). An example of this could be the strategic ownership of a monoline bond insurer by a higher-rated parent or strategic partner with extremely strong financial flexibility and explicitly committed (or a sustained track record of) capital and liquidity support. Paragraphs 98-109 contain the full treatment of financial flexibility. Financial flexibility could cap a company's financial profile score, which, in turn, could cap the final rating. The highest rating possible for a bond insurer with a financial flexibility score of either marginally negative or negative is 'AA'.

**Table 4**

<b>Financial Flexibility Modifier</b>	
Financial flexibility scores can modify the preliminary financial risk profile score as follows:	
1 (Positive)	-1
2 (Neutral)	0
3 (Marginally negative)	+1
4 (Negative)	+2

See Table 19 for financial flexibility scoring methodology.

### Determining the business risk profile score

31. For investment-grade bond insurers, industry risk and competitive position are the most influential analytical components in determining the business risk profile score. A company's strengths or weaknesses in the marketplace are vital to future economic performance and the company's ability to attract capital investment. Industry risk, an integral part of the credit analysis, addresses the relative health and stability of the markets in which the bond insurers operate. The range of industry risk scores are (1) very low risk, (2) low risk, (3) intermediate risk, (4) high

risk, (5) very high risk, and (6) extremely high risk. Bond insurers that operate within industries with low risk conditions will, as a group, have better business risk profile scores than insurers operating in industries with intermediate risk or high risk conditions. Insurers operating in industries characterized as having extremely high risk conditions are considered to be operating in an environment that creates a vulnerable business risk profile score regardless of the strength of the insurer's competitive position. The treatment of industry risk is in paragraphs 110-113.

32. The evaluation of competitive position identifies entities that are best-positioned to take advantage of these key industry drivers—or to mitigate associated risks more effectively—and achieve a competitive advantage and a stronger business risk profile than entities that lack a strong value proposition or are more vulnerable to sector-specific risks. The range of competitive position scores is (1) extremely strong, (2) very strong, (3) strong, (4) adequate, (5) less vulnerable, and (6) more vulnerable. The business risk profile score of a bond insurer with a competitive position that is considered extremely strong or very strong is superior to those assessed as less or more vulnerable. The full treatment of competitive position is in paragraphs 114-124.
33. In some situations, a management and corporate strategy score can modify the competitive position score. The range of management and corporate strategy scores are (1) positive, (2) marginally positive, (3) marginally negative, and (4) negative. Typically, solid competitive positions reflect positive or marginally positive management and strategies, so there is no scoring benefit. Alternatively, companies with a marginally negative or negative assessment of management or operating strategy can have scores negatively modified. Also, a positive change to management or strategy for a weaker entity is viewed as a favorable factor and can have a positive impact on some competitive position scores. Table 5 identifies how the competitive position score could be affected based on the evaluation of management and corporate strategy. (Note that '+1' indicates an increase of 1 in the competitive position score, which is less favorable, and '-1' indicates a more favorable score.) An adjustment of greater than +2 to the competitive position score occurs when management is evaluated as potentially harming the firm's business risk profile and the analysis concludes that the risks of management's actions have the potential to markedly impair the economic success of the firm. An example of when this adjustment can occur is a management strategy to enter or expand into a business in such an aggressive manner that losses in a stress scenario have the potential to be very harmful to the firm's credit profile. Paragraph 125 contains the full treatment of the management and corporate strategy score.

**Table 5**

<b>Adjusted Competitive Position Score—Management Adjustments</b>				
<b>Competitive position score</b>	<b>—Management score—</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1	-	-	+1	+2 (or more)
2	-	-	+1	+2 (or more)
3	-	-	+1	+2 (or more)
4	-	-	-	+2
5	-1	-	-	+1
6	-1	-1	-	-

See Table 23 for competitive position scoring methodology. Please refer to "Management And Corporate Strategy," published on Jan. 20, 2011, for a description of how this category is analyzed.

34. Once the competitive position score has been adjusted following the assessment of management, the next step in

determining a company's business risk profile score is to merge the industry risk score and adjusted competitive position score, thereby creating the business risk profile score. When combined, a view of an enterprise's competitive position is shaped by the industry risk of the sector or sectors it operates within, which then establishes an overall view of the enterprise's business risk profile (see Table 6).

**Table 6**

<b>Business Risk Profile Score</b>						
<b>Industry risk score</b>	<b>—Adjusted competitive position score—</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	1	1	2	3	3	4
2	1	2	2	3	3	4
3	2	2	3	3	4	5
4	3	3	4	4	5	6
5	4	4	5	6	6	6
6	6	6	6	6	6	6

See Table 21 for industry risk scoring methodology and Table 5 for adjusted competitive position scoring methodology.

### Merger of financial risk profile and business risk profile

35. The merger of business and financial risk profile scores results in the indicative rating (see Table 7). The final rating can be adjusted up or down one notch based on a company's strengths or weaknesses relative to its peer group.

**Table 7**

<b>Indicative Rating Outcome—Merging Business And Financial Risk Profiles</b>						
<b>Business risk profile</b>	<b>—Financial risk profile—</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	aaa	aa	aa	a	bbb	b
2	aaa	aa	a	a	bbb	b
3	aa	aa	a	bbb	bb	b
4	a	a	bbb	bb	b	ccc
5	bbb	bbb	bbb	bb	b	ccc
6	bb	bb	bb	b	b	ccc

### Incorporating enterprise risk management analysis

36. ERM is an overarching analytical factor that influences both the business risk profile and financial risk profile. ERM is scored in terms of (1) excellent, (2) strong, (3) adequate with positive trend, (4) adequate with strong risk controls, (5) adequate, or (6) weak. Because of the risk profile and confidence-sensitive nature of bond insurance, ERM is considered to be highly important to the ratings in the sector, so an evaluation of ERM can help or hurt the final rating conclusion for a bond insurer. A score of excellent or strong is viewed as a prerequisite for an adjusted indicative rating in the 'aaa' and 'aa' categories. Excellent will usually add a notch to the rating for insurers with indicative ratings in the 'aa' category. Alternatively, an ERM score of excellent, strong, or adequate with positive trend would add a notch to an indicative rating in the 'a' or 'bbb' categories. Adequate with strong risk controls or adequate ERM scores will not have an impact on indicative ratings below the 'aa' category. Finally, an ERM score of weak restricts the adjusted indicative rating to the 'bb' category and below and can lower the final rating outcome, based on the severity of the ERM deficiencies. The full treatment of ERM is in paragraph 137.

### Incorporating liquidity analysis

37. Liquidity analysis can act as a cap to the adjusted indicative rating (see Table 8). Liquidity risk is most visible when a company's business position is under stress. Liquidity analysis focuses on the relationship between an insurer's liquid assets and the liabilities that are subject to a sudden shortening of term rather than focusing on an insurer's total liquid assets in isolation. Insufficient liquidity occurs only if the two become unbalanced. Liquidity is scored on a scale of (1) exceptional, (2) strong, (3) adequate, (4) less than adequate, and (5) weak. The last three scores can cap the adjusted indicative rating on an insurer. There is no cap for a company with an excellent or strong liquidity score. However, a score of adequate caps the adjusted indicative rating at 'a'. Less than adequate liquidity would cap the adjusted indicative rating at 'bb', and weak liquidity would cap the adjusted indicative rating on the company at 'ccc'. Paragraphs 126-136 contain the full treatment of liquidity.

**Table 8**

Liquidity Scoring	
1	Exceptional liquidity
2	Strong liquidity
3	Adequate liquidity
4	Less-than-adequate liquidity
5	Weak liquidity

See Table 25 for liquidity scoring methodology.

### Leverage test

38. The maximum leverage allowable for a bond insurer to achieve and maintain a 'AAA' final rating is 75x.
39. Leverage is defined as the ratio of net par exposure to capital, including surplus and contingency reserve. If an insurer exceeds the maximum leverage consistent with a 'AAA' final rating, the final rating can be no higher than 'AA+'.
40. The criteria include a leverage test as a final filter to companies with a 'aaa' adjusted indicative rating. Although Standard & Poor's deterministic capital adequacy model helps assess a bond insurer's capital adequacy, no single model can capture the full range of possibilities, relationships, and developments that can occur during times of stress. Consequently, the criteria supplement this analysis with a leverage test that serves as an independent constraint on the amount of exposure a potentially 'AAA' rated bond insurer can have relative to its capital. This test addresses both event risk and model risk. The test is limited to insurers potentially rated 'AAA' because of the view that the possibility of stress associated with either model error or event risk is remote and not captured by the 'AAA' stress scenario used in the model. Moreover, limiting leverage is consistent with 'AAA' credit stability (see "Methodology: Credit Stability Criteria," May 3, 2010). Therefore, only insurers potentially rated 'AAA' must meet both standards of extremely strong capital adequacy and limit net par exposure to no more than a defined multiple of capital.

## B) Capital Adequacy

41. Standard & Poor's capital adequacy model is the cornerstone of the capital analysis. Standard & Poor's capital adequacy model is a seven-year pro forma balance sheet and profit and loss statement projection using projections for all revenue, expense, asset, and liability categories during a period of 'AAA' stress. For example, the model adjusts revenue to reflect the decline in premiums because of the runoff of the insured book of business and an

expected cessation of new business activity at the start of a severe claims-paying period. The model also adjusts revenue for a decline in investment income, reflecting projected defaults within the investment portfolio as well as the sale of investments, if necessary, to pay claims. Claims in the model reflect expectations of losses over a stress environment. Prior to 2007, in a normal year, claims typically equated to a fraction of premiums earned in the bond insurance industry. By contrast, hypothetical claims in the pro forma exercise generate substantial income statement net losses. Reinsurance moderates the claims, though credit for reinsured claims is discounted to reflect the credit quality of the reinsurer (see Table 13). Operating expenses are projected to decline at the start of the period of stress under the expectation that a halt to new business activity would correspondingly reduce expenses in the sales and marketing functions. The balance sheet is adjusted to reflect income statement activity. Policyholder surplus reflects not only income statement results but also additions to surplus during the stress period associated with some contingent capital facilities, such as contingent preferred stock trusts.

42. The model stresses the balance sheet and income statement, generating an ending, post-stress-period capital position. The model calculates the capital adequacy ratio as follows:

$$\text{Capital adequacy ratio} = \frac{\text{Ending statutory capital} + \text{projected paid and incurred losses} + \text{loss reserves}}{\text{Projected paid and incurred losses}}$$

43. The scores for capital adequacy are shown in Table 9.

**Table 9**

<b>Capital Adequacy Scoring</b>	
<b>Ratings framework score</b>	<b>Related sub-factors</b>
1. Extremely strong	Capital adequacy ratio greater than 1.00x
2. Very strong	Capital adequacy ratio greater than 0.80x and no more than 1.00x
3. Strong	Capital adequacy ratio greater than 0.65x and no more than 0.80x
4. Adequate	Capital adequacy ratio greater than 0.50x and no more than 0.65x
5. Less vulnerable	The company's level of capital adequacy is less than adequate but above 120% of the regulatory minimum solvency standard.
6. More vulnerable	The company's level of capital adequacy is 120% of the regulatory minimum solvency standard or below.

44. A capital adequacy ratio of 1.00x corresponds to capital sufficient to withstand losses under an extreme stress scenario (see "Understanding Standard & Poor's Rating Definitions," June 3, 2009).

### **Bond insurance capital adequacy model**

45. Standard & Poor's capital adequacy model is calibrated to 'AAA' stress expectations for all aspects of a bond insurer's existing and future business. Income, balance sheet, and cash flow statements are produced using statutory accounting principles. The major difference is that the criteria model a stressed claims environment, whereas a financial guarantor's own business plan usually projects an expected case (see Table 10).

Table 10

<b>Bond Insurance Capital Adequacy Model</b>							
	—Growth years—				—Stress years—		
	1	2	3	4	5	6	7
New business activity	<b>Business activity projected to mirror company's business plan in Year 1, followed by model-specified growth in Years 2 and 3. The period of stress begins in Year 4 and continues for four years. During these years, no new business is written, but premiums continue to be collected for existing annual premium business.</b>						
Premiums written	<b>Plan</b>	<b>Greater of plan or model growth specifications.</b>			<b>No new business written, collect installment premiums on existing business.</b>		
Net income	<b>Net income = Premiums earned - operating expenses - losses + investment income + gains (losses) on asset sales - taxes</b>						
Premiums earned	<b>Premium earnings pattern based on scheduled maturity of issues, no refundings or early calls expected beyond Year 1.</b>						
Operating expenses*	<b>Plan</b>	<b>Growth consistent with premium growth</b>	<b>Growth consistent with premium growth</b>	<b>Decline to 93% of Year 3</b>	<b>Decline to 89% of Year 3</b>	<b>Decline to 70% of Year 3</b>	<b>Decline to 48% of Year 3</b>
Losses (net of reinsurance and soft capital)¶	<b>Discrete losses</b>	<b>Discrete losses</b>	<b>Discrete losses + debt service reserve losses</b>	<b>Discrete losses + debt service reserve losses</b>	<b>Discrete losses + financial guarantee losses</b>	<b>Discrete losses + financial guarantee losses</b>	<b>Discrete losses + financial guarantee losses</b>
Investment income	<b>Existing investment yields based on embedded rates, new investment yields based on projected rates.</b>			<b>Investment income discounted for projected defaults in the portfolio</b>			
Asset sales	<b>None projected</b>			<b>Sales prices reflect discount for reduced liquidity and high interest rate environment.</b>		<b>Sales price reflect discounts for reduced liquidity.</b>	
Policyholders' surplus	<b>Policyholders' surplus = prior year's ending surplus + net income +/- changes in contingency reserve + benefit of tax and loss bonds - dividends.</b>						
Contingency reserve	<b>Annual additions based on regulatory requirements, reserve may be released if loss ratios exceed a specific amount in any year.</b>						
Asset carrying value	<b>No adjustment</b>			<b>Carrying value adjusted to reflect market value declines due to default.</b>			
Dividends to holding company	<b>Dividends paid to cover dividends to hold co stockholders plus debt service requirement.</b>			<b>Dividends paid to cover holding company debt service requirements.</b>			

\*Excludes volume-related expenses (e.g., premium tax or ceding commissions). ¶Reinsurance credit determined by ratings on reinsurance provider. Soft capital credit determined by rating on provider or structure.

### Business activity

46. The model projects three years of new business activity followed by a four-year stress period, thereby increasing the size of the insured portfolio to be stressed. During the growth years, new par written expands at an aggressive pace: the insurer's business plan or 15% growth in written par for municipal business and 25% for structured finance, whichever is greater. When a market disruption is expected—such as the disruption to the structured finance market from 2008 to 2010—growth projections would be based on Standard & Poor's own view of projections for the company's business growth. The projections are based on market growth during the period, the company's strategy, and an expectation of its ability to execute on that strategy. The analysis uses a mix of business that is consistent with the bond insurer's business plan, provided that mix is realistic. Once the period of stress starts, the analysis

projects that no new business is written.

### **Insured portfolio composition**

47. The insured portfolio includes two components that are stressed beginning in year four—the first year of claims-paying stress in the model. The first is the existing portfolio, which amortizes according to schedule and general expectations over the first three business growth years of the modeling exercise. The second element is the new insured portfolio that the analysis creates in connection with the projected new business written over the first three years of business growth. Unless the analysis anticipates significant changes in the business mix, such as a general slowdown or actual moratorium on business being written in a certain sector, the mix of new business will generally mirror the mix of the existing portfolio.

### **Capital charges**

48. The criteria assign capital charges to all insured transactions by developing stressed loss estimates for each transaction in the context of a diversified portfolio of risks. Capital charges are the key variable in the model, and losses are determined in the capital modeling exercise using these transaction-based charges. In addition to estimating losses, the analysis calculates a weighted-average sector capital charge for a company, which is one measure of risk for an insured portfolio.

### **Theoretical losses and rating calibration**

49. During and since the Great Depression, municipal obligors did not default at the same rate as corporate obligors. Going forward, however, the performance of municipal ratings should more closely resemble that of corporate ratings. Various criteria changes that Standard & Poor's has made over the past decade have increasingly focused on the key factors of municipal credit quality. These criteria changes have resulted in a significant number of upgrades in some municipal sectors (see "U.S. Public Finance And The Global Rating Scale," April 19, 2010). In addition, municipal credits—when observed over a period longer than the past 30 years—have defaulted at a greater frequency than when observed over the past three decades. "The Postwar Quality of State and Local Debt," a study by George H. Hempel, demonstrates that U.S. municipal debt defaults have occurred in every type of governmental unit and every U.S. geographical region. Please see "Update To Global Methodologies And Assumptions For Corporate Cash Flow And Synthetic CDOs," published Sept. 17, 2009, for assumptions on credit performance during stress periods.
50. The capital charges shown in Table 11 are sized to represent the level of losses that the criteria expect would be experienced in a stress scenario of 'AAA' severity. To develop the capital charges, a stochastic model was used to evaluate the performance of a hypothetical, well-diversified pool of equal-size U.S. municipal credits evenly distributed across 50 states, three territories, and six not-for-profit industry groupings. The ratings on the assets ranged from 'AAA' to 'B', and the average maturity was 15 years.
51. The starting point for the credit risk analysis of the portfolio of municipal assets is deriving the SDR on the asset pool. The same asset default rate modeling parameters used in rating corporate CDOs were used in deriving the SDRs. Because all assets in all states, territories, and not-for-profit industry groupings are correlated, the criterion applies a 0.01 asset correlation among states, territories, and not-for-profit industry groupings and a 0.10 asset correlation within states, territories, and not-for-profit industry groupings. The correlation factors are based on the view that correlation between states, territories, and not-for-profit industry groupings is less than among industries within the CDO evaluator and that issuers within states, territories, and not-for-profit industry groupings are less correlated than corporations within industries.

52. The SDRs were adjusted for expected high recoveries. As demonstrated by the Hempel study, recoveries on defaulted municipal bonds were high following the Great Depression. The capital charges in Table 11 reflect an assumption of recoveries better than those reported by Hempel because of the value of an insurer's control rights, loss mitigation efforts, ERM strategy underwriting, and active surveillance of the insured portfolio. Bond insurers have demonstrated the effectiveness of these measures with recovery rates on defaulted issuers that tend to be higher than those demonstrated by the Hempel study. In Table 12, risk categories (1-4) are used to represent the recoveries on defaulted municipal bonds that are expected to be realized in a 'AAA' stress scenario. 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 higher than for corporate assets given the ability of a municipal entity to maintain its operations and generate additional revenues for eventual repayment. For risk category 4, the criteria use the same recovery rate parameters as currently used for U.S. corporate senior secured bonds.
53. For a portfolio of insured municipal and corporate debt, an insurer's weighted-average capital charge percentage is applied to the average annual debt service of its portfolio to determine the theoretical losses over the four years of the stress period. The original maturity of an issue determines its average annual debt service. Given the model's focus on years of debt service in default, the more debt service that can be in default during the stressful years, the greater the aggregate expected claims.

**Table 11**

Risk category	—Underlying rating category—						
	CCC	B	BB	BBB	A	AA	AAA
1—Tax-backed general obligation pledge, water-sewer/solid waste, sales/income/gas tax, public universities, and FHA insured housing	47	38	28	15	9	5	3
2—Tax-backed general fund or appropriation pledge, public power/gas, transportation, state agency single-family housing, and HFA and PHA ICR financings	94	77	56	31	18	11	6
3—Other special taxes, special assessments, tax increment, and local agency single-family housing	188	153	112	62	35	21	12
4—Charter schools, private schools and universities, health care, 501C3, PHA capital fund financings, military housing, mobile home or affordable housing/Section 8 financings, corporates	358	291	213	118	67	40	22

\*Expressed as a percent of average annual debt service. Based on current interest rates.

**Table 12**

Municipal Recovery Parameters	
	Recovery (%)
Category 1	95
Category 2	90
Category 3	80
Category 4	62

54. The criteria assign public finance obligations outside the U.S. to the sector most closely reflecting the issuer's risk profile. In general, the same categories apply to non-U.S. obligations, with the exception of public hospitals in the U.K., which are in Category 2. Most non-U.S. obligations are expected to fall within Category 1. In some instances, however, non-U.S. obligations may be assigned to a category for which the recovery rate for the obligation more closely aligns with specific characteristics of the issuer.

### Refunded bonds

55. If a refunded (defeased) bond issue has been rated 'AAA' based on Standard & Poor's defeasance criteria, the criteria for bond insurers nets the exposure against total debt service for analysis using the capital adequacy model. Otherwise, the regular capital charge applies.

### Debt-service reserve funds

56. 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 year immediately preceding the period of stress and in the first year of the period of stress. This reflects the expectation that these funds would be the first to be used to meet debt service when an issuer defaults. The capital charge for a debt-service reserve policy would be 50% of the sector's normal capital charge, applied to the entire amount of the surety policy. If an insurer insures a transaction supported by a DSR and it provides a surety for the DSR, there is no additional capital charge for the DSR exposure.

### Project finance

57. For an explanation of capital charges for project finance, see "Standard & Poor's Methodology For Setting The Capital Charge On Project Finance Transactions," Sept. 12, 2007.

### Capital charges for asset-backed transactions

58. For insured asset-backed 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, the lower the risk. Credit enhancement levels differ based on asset type and the underlying rating on the transaction (the rating on the transaction without bond insurance). Credit enhancement levels are determined using Standard & Poor's structured finance criteria for the respective asset class.
59. In calculating the asset-backed capital charge, the model first determines the credit gap, which is the difference between the hypothetical 'AAA' credit enhancement and the actual credit enhancement in the transaction. The credit gap is an estimate of the extreme stress case loss that the insurer can incur on that transaction. The model then divides the determined credit gap by three to reflect the value of diversification and the negative effect of correlations and concentrations. The model views diversification as a positive factor, as it is unlikely that a portfolio of transactions diversified by asset type, geography, originator/servicer, and origination date will all default at the same time and that each transaction will lose the maximum amount defined by the 'AAA' loss-coverage requirement. At the same time, experience has shown that transactions within a specific asset class—despite diversity of geography, originator/servicer, and origination date—can be highly correlated. This issue is dealt with in the sector stress analysis, described in paragraph 62.
60. For transactions with speculative-grade underlying ratings, the determination of the capital charge is a two-step process. First, the analysis calculates the credit gap between 'AAA' and 'BBB-' levels of credit enhancement then divides the credit gap by three. Next, the analysis determines the full dollar-for-dollar amount of credit enhancement required to bring the transaction to a 'BBB-' underlying rating. The capital charge is the sum of these two calculations. For transactions for which Standard & Poor's has not determined an S&P Underlying Rating (SPUR) or credit estimate, these transactions are assumed to have an underlying rating of 'CCC'.
61. The minimum capital charge for any asset-backed transaction, regardless of how high the underlying rating, is 1% of par.

### Sector stress analysis

62. For the purposes of the capital adequacy analysis, the aggregate capital charge for structured finance transactions is the greater of:
- (a) The weighted average of all structured finance capital charges, weighted by par value, or
  - (b) The largest total credit gap for an individual sector. This number is the difference between the 'AAA' loss coverage requirement and the amount of protection provided per transaction, summed over all transactions in a sector. For these purposes, the universe of structured finance is broken down into the following sectors:
    - Residential mortgage-backed securities (RMBS)
    - Commercial receivables
    - Autos
    - Credit cards
    - Student loans
    - Commercial real estate (CRE), including CRE CDOs
    - CDOs of asset-backed securities (ABS). For the purposes of this analysis, the aggregate credit gap for ABS CDOs is the aggregate notional par value for that sector
    - All else, including corporate CDOs.
63. The greater of test is designed to capture the heightened risk associated with a portfolio that contains a large concentration of risk, accumulated either through large concentrations of exposure or a large number of potentially higher-risk transactions in one sector.
64. The analysis incorporates recovery analytics into the assessment of an insurer's capital charges for nonagency RMBS. (For an overview of the recovery analytics, see "Market Feedback Request: A New Product For Providing Structured Finance Recovery Analytics," published Aug. 17, 2009, and "Standard & Poor's Recovery Analysis Provides Additional Insight Into U.S. RMBS Performance," published Nov. 6, 2009.) The model applies the results of the recovery analysis when assessing an insurer's capital adequacy by using the projected recovery at the 'AAA' stress level (the capital charge equals insured par less recovery). Projected recoveries are calculated at the security level, which generates a unique capital charge for each nonagency RMBS asset within an insurer's insured portfolio.
65. When the recovery analysis is not available, the capital charge approach, for selected sectors, is augmented with an alternative approach assigning a current stressed loss projection to selected books of business, based on Standard & Poor's structured finance criteria for the particular asset class.
66. When an insured obligation has deteriorated to the extent that a near-term default is likely based on a review of surveillance information (a discrete loss), Standard & Poor's treats the transaction as having already defaulted, remaining in default throughout the life of the stress scenario. Similarly, for the purposes of the capital model, bonds already in default remain in default unless there is abundant reason to believe the transaction will emerge from default. For bonds remaining in default beyond the stress period, the model incorporates a charge for future losses.

### Reinsurance and third-party capital

67. The capital model gives credit for business that a bond insurer has ceded through reinsurance. Bank lines of credit can qualify as reinsurance under the model, as can certain contingent preferred stock facilities. The model treats regular reinsurance and bank lines as reductions to overall losses, and it treats contingent preferred stock facilities as additional capital.

68. Credit for reinsurance ceded is reduced based on credit quality (see Table 13). The model bases the credit it provides on a combination of reinsurer and ceding company ratings. In essence, the greater the differential between the ceding company and reinsurer ratings, the less the credit.

**Table 13**

Reinsurance Credit For Business Ceded					
(% of capital charge)	—Reinsurer rating—				
Ceding company rating	AAA	AA	A	BBB	Speculative-grade
AAA	95	65	45	No credit	No credit
AA	95	95	65	45	No credit
A	95	95	95	65	No credit

### Investment income

69. Existing investments earn at their embedded rate, and conservative rates of interest apply to new investments throughout the forecast period. During the four-year period of stress, the model reduces investment income to reflect defaults on bonds rated below 'AAA' that are held for investment. The model treats common stocks and all securities rated below 'A' as worthless at the beginning of the four-year period of stress. The model recognizes losses from the sale of investments in (1) the first two years of the period of stress because of modeled interest rate movements that result in an inverted yield curve and long-term rates rising at least 600 basis points, and (2) throughout the stress period on instruments rated lower than 'AAA' to reflect reduced liquidity in the markets.

### Premium written and earned

70. For existing business, premiums are written and earned at their imbedded premium rates. For the growth book of business, premiums reflect current market conditions and business plans. When competitive forces cause premium rates to decline, the model captures a significant amount of the effect of changing premium rates by having the insurer write new business for three years at lower premium rates before the start of the stress years.

### Nonbond insurance products

71. Capital charges are assessed against nonbond insurance products or services, such as municipal guaranteed investment contract (GIC) businesses. These are nonstandard business lines where capital is at risk. An analysis of each operation is performed to determine the risk it poses to the insurance company, either directly through financial guaranty insurance policies or indirectly as a potential drain on capital.

### Capturing the impact of major events

72. Following the occurrence of a major event with credit implications—such as a severe natural catastrophe or economic recession—incremental theoretical losses are generated for the purpose of a sensitivity analysis relative to the existing capital base. In most events affecting credit, the incremental losses include a potential claims component and a ratings migration component. For example, in the case of Hurricane Katrina, the model projected that the credits most directly affected would default while other, less-affected credits would suffer downgrades.

## C) Largest Obligors Test

73. While the capital adequacy model addresses the question of capital relative to a severe, wide-scale claims-paying environment, the largest obligors test addresses capital and credit stability in the context of occasional, large discrete defaults by individual obligors. Large exposures to a small number of defaulting issuers or issues could threaten a

bond insurer's creditworthiness, particularly in a benign credit environment where the defaults are isolated events and not related to a general economic downturn.

74. For this reason, Standard & Poor's standardizes largest obligor metrics calculated for exposures to individual issuers or issues in the case of asset-backed transactions. The approach is based on the possibility that even in a benign credit environment, a small number of issuers or issues could suffer large discrete losses for idiosyncratic reasons. The methodology measures the possible default of a minimum number of the largest obligor exposures within the insured portfolio, factoring in the underlying assets' credit quality, against the company's statutory capital. The largest obligors test reflects the expectation that the severity of the loss will be great, differentiated by the recovery characteristics of the obligor's sector.
75. When an insurer has insured more than one debt instrument from the same obligor (including appropriation debt) or supports or guarantees issues of speculative-grade issuers, the criteria aggregate such debts as a single obligor for this analysis, if those instruments are rated in the same category. When the issue ratings are different, only exposures that are rated within the largest obligor analysis parameters will be aggregated. For example, assume the insured portfolio holds two rated issues from the same obligor, one with a 'AA-' rating and another with a 'A' rating. When aggregating exposures for assets rated below 'AAA', both issues would be aggregated. However, when aggregating exposures for issuers rated lower than 'AA-', the 'AA-' rated instrument would not be included because under this analysis, only obligor issues up to the 'A+' rating are aggregated.
76. A bond insurer's exposure to large obligors is calculated as the greater of the stressed losses resulting from the defaults of:
- The two largest exposures
  - The three largest exposures rated lower than 'AAA'
  - The four largest exposures rated lower than 'AA-'
  - The six largest exposures rated lower than 'A-'
  - The eight largest exposures rated lower than 'BBB-'
  - The 10 largest exposures rated lower than 'BB-'
  - The 12 largest exposures rated lower than 'B-'
77. This test excludes exposures already in default because the financial impact of these defaults is already incorporated in the rating on the insurer.
78. Stressed losses for municipal issuers are calculated by multiplying the par value of the obligation by (1 minus the recovery parameter). Recovery parameters by risk category are shown in Table 14. Stressed loss potentials for ABS are determined on an individual transaction basis using the same credit-gap concept employed to determine capital charges (see paragraphs 59 through 61).

**Table 14**

Municipal Recovery Parameters For Largest Obligors Test	
Category	Recovery (%)
1 and 2	60
3 and 4	30

79. The greatest of the stressed loss totals, calculated as defined in paragraph 78, is expressed as a percent of the bond

insurer's statutory capital. If the result is less than 25%, the outcome of the largest obligor test would be favorable. If the result is 25% or greater, the outcome of the test would be viewed as least favorable. A least favorable score would add one point to the adjusted capital adequacy score, and a favorable score would have no impact on the capital adequacy score.

## D) Operating Performance

80. The primary sub-factors for scoring a bond insurer's operating performance are operating return on equity (operating ROE), risk-adjusted pricing ratios, capital charge trends, and combined ratio. Secondary operating performance sub-factors are exposure to speculative-grade obligations, underwriting ratios (loss and expense ratios), statutory return on revenue, the stability and quality of operating performance, and relative operating performance.
81. Within Standard & Poor's ratings framework for bond insurers, scores for operating performance are based on the following scale: (1) extremely strong, (2) very strong, (3) strong, (4) adequate, (5) less vulnerable, and (6) more vulnerable. Table 15 shows how the assessments of primary and secondary sub-factors get aggregated into the final score for operating performance. Table 16 explains the scoring for each sub-factor.

**Table 15**

Operating Performance Scoring	
Ratings framework score	Related sub-factors (see Table 16)
1. Extremely strong	All key sub-factors and most secondary sub-factors are scored most favorable.
2. Very strong	The sub-factors are a mix of most favorable and favorable scores, with the majority of key sub-factors scored in the most favorable designation.
3. Strong	The sub-factors are a mix of most favorable and favorable scores, with at least half of key sub-factors in the favorable category.
4. Adequate	No key sub-factors in the most favorable category, and substantially all secondary sub-factors are scored as most favorable or favorable.
5. Less vulnerable	The sub-factors are a mix of favorable and least favorable scores, with the majority of key sub-factors scored in the favorable designation.
6. More vulnerable	A majority of sub-factors are scored least favorable.

82. The scoring uses a mixture of qualitative and quantitative sub-factors. Projections, when used, are an expectation of prospective performance over a three-year time horizon. Projections are based on the company's past performance and trends during the past five years, the company's strategy, and an expectation of the company's ability to execute that strategy. The analysis excludes items considered unusual and nonrecurring.

**Table 16**

Operating Performance Sub-Factor			
	Most favorable	Favorable	Least favorable
<b>Key sub-factors</b>			
Operating ROE (paragraph 83)	Greater than 12%	12% to 5%	Less than 5%
Municipal risk-adjusted pricing ratio (paragraph 84)	Greater than 6%	6% to 4%	Less than 4%
Structured finance risk-adjusted pricing ratio (paragraph 84)	Greater than 13%	13% to 9%	Less than 9%
Capital charge trends (paragraph 85)	Stable or declining	Modestly increasing	Significantly increasing
Statutory combined ratio (paragraph 87)	Less than 35%	35% to 100%	Greater than 100%

Table 16

Operating Performance Sub-Factor (cont.)			
Secondary sub-factors			
Speculative grade exposure (paragraph 86)	Less than 3% of insured portfolio	3% to 5% of insured portfolio	Greater than 5% of insured portfolio
Statutory loss ratio (paragraph 87)	Less than 10%	10% to 40%	Greater than 40%
Statutory expense ratio (paragraph 87)	Less than 25%	25% to 60%	Greater than 60%
Statutory return on revenue (paragraph 88)	Greater than 50%	50% to 10%	Less than 10%
Stability/quality of operating performance (paragraph 89)	Highest	High	Low
Relative operating performance (paragraph 89)	Consistently and substantially better than industry average	At or slightly better than industry average	Below industry average

83. In calculating projected operating ROE, operating income is defined as net income excluding aftertax realized gains or losses on investments; aftertax unrealized gains or losses on credit derivatives, with the exception of credit impairments on those derivatives; and fair-value adjustments related to the company's credit risk. Equity excludes the accumulation of other comprehensive income and aftertax unrealized gains or losses on credit derivatives, with the exception of credit impairments on those derivatives, and fair-value adjustments related to the company's own credit risk.
84. The risk-adjusted pricing ratio is calculated as a book of business's weighted average premium rate divided by the weighted average capital charge. This ratio is calculated using information from the most recent year. It is calculated by sector for annual business written in the U.S. public finance, U.S. structured finance, international public finance, and international structured finance sectors. Holding risk (the weighted-average capital charge) constant, this ratio provides insight into a company's pricing execution relative to past years and to the rest of the industry.
85. Capital charges are used to determine theoretical losses in Standard & Poor's capital adequacy model based on a given 'AAA' severity of stress. Weighted-average capital charge trends can be used to assess changes in portfolio risk and could indicate changes in risk tolerance and the accumulated risk of the business. These trends are reviewed for the five most recent years of operations.
86. The amount of speculative-grade exposure can provide insight into an insurer's susceptibility to greater losses, which provides a forward-looking measure on prospective earnings. The most recent year's exposure is reviewed.
87. Loss and expense ratio projections suggest the extent of a company's ability to achieve favorable pricing or operational efficiencies. The analysis considers these ratios in the context of the competitive landscape; company results are analyzed both in absolute terms and relative to those of peer companies and the overall bond insurance industry. The ratios are defined as:
- Statutory loss ratio: losses incurred plus LAE divided by net premiums earned.
  - Statutory expense ratio: Underwriting expenses divided by net premiums written.
  - Statutory combined ratio: Sum of the statutory loss ratio and expense ratio.
88. Projections of the statutory return on revenue (ROR) include both underwriting and investment components and thus capture both sources of a bond insurance company's earnings. ROR is defined as earnings before interest and taxes divided by total revenue where revenue includes net premiums earned plus investment income (though investment income excludes investment gains or losses), plus other underwriting income. For companies with a

demonstrated, consistent strategy of harvesting capital gains, an adjustment may be made to the analysis to include a proportion of these gains.

89. Insurers that produce stable earning streams, based on the competitive advantages they have in the marketplace, are well positioned to succeed in the industry. The volatility and sustainability of earnings are also considered. Companies with stable and sustainable earnings are considered to have most favorable earnings characteristics. Alternatively, insurers with volatile or unsustainable earnings may be unable to consistently build capital.

## E) Investments

90. The focus of scoring investment risk is on capturing elements that are not adequately captured in the sub-factors for other analytical categories. Those elements include areas the capital model does not address, such as sector and single-name concentrations or correlations in the insured portfolio, as well as those in the capital model, but that constitute outside exposures, such as heavy concentrations in high-risk assets. In contrast, the investment score does not include certain investment elements that other analytical categories capture. Most notably, credit and equity risk have a heavy influence on the capital adequacy score. Similarly, investment returns, in absolute and risk-adjusted terms, will influence operating performance.
91. Within Standard & Poor's ratings framework for bond insurers, investments are scored on the following scale: (1) low to moderate risk, (2) high risk, or (3) very high risk. Table 17 shows the aggregation of the individual sub-factor analysis into the overall investment score. Table 18 explains the scoring for each sub-factor.

**Table 17**

Investment Scoring	
Ratings framework score	Related sub-factors (see Table 18)
1 Low to moderate risk	All sub-factors are scored as either most favorable or favorable, with no least-favorable sub-factors.
2. High risk	No more than two sub-factors are scored least favorable.
3. Very high risk	More than two sub-factors are scored in the least favorable category, or some investment risk characteristics exist that could cause severe capital stress.

92. The scoring uses a mix of qualitative and quantitative sub-factors. Items considered unusual or nonrecurring items are excluded.

**Table 18**

Investment Sub-factors			
	Most favorable	Favorable	Least favorable
Portfolio diversification (by type and counterparty) (paragraph 93)	Highly diversified — Coordinated and well-defined asset-allocation strategy that is highly integrated with product line and cash flow needs. Well-established limits that promote diversification and limit concentrations. There are no significant concentrations within the investment portfolio and the insured portfolio.	Diversified — Defined asset-allocation strategy that is integrated with product line and cash flow needs. Diversification and concentration limits are established. Only modest concentrations within the investment portfolio and the insured portfolio.	Some concentrations — An asset-allocation strategy that is not as well integrated with product-line and cash-flow needs. Some meaningful concentrations within the investment portfolio or with the insured portfolio exist. Single obligor exposure exceeding 10% of capital, or single sector exposure exceeding 25% of invested assets.
Non-sovereign investment diversification (paragraph 94)	Top 10 holdings <10% of investments	Top five holdings <10% of investments	Top five holdings >10% of investments

Table 18

Investment Sub-factors (cont.)			
Self-insured bonds in the investment portfolio (paragraph 95)	<=2%	>2% and <5%	>= 5%
Insured bonds in the investment portfolio (paragraph 95)	<= 10%	>10% and <20%	>= 20%
High-risk assets to equity or surplus (paragraph 96)	<= 5%	>5% and <10%	>= 10%
Average bond/counterparty credit quality (paragraph 96)	AAA/AA	A	BBB or lower
Asset liquidity (paragraph 97)	90% of financial assets are liquid. High-risk assets and bonds rated below 'A-' are de minimis.	80% to 90% of financial assets are liquid. High-risk assets and bonds rated below 'A-' less than 5%.	Less than 80% of financial assets are liquid. High-risk assets and bonds rated below 'A-' greater than 5%.

93. A portfolio of investments with uncorrelated credit risks is likely to pose a lower risk to an insurer's capital than a portfolio that contains investment concentrations. Unusual concentrations—such as by asset type, maturity, low credit quality, industry, sector, and geographic location—are reviewed. Also of concern in the analysis are concentrations of obligors and sectors within both the investment and insurance portfolios.
94. Nongovernment investment diversification is also a component of portfolio diversification. For example, the criteria consider common and preferred stock as well as convertible and senior debt issued by the same entity or family member to be correlated.
95. Self-insured bonds and bonds insured by other bond insurers are captured in the diversification analysis. Ultimately, self-insured bonds are highly correlated with the bond insurer's own risk profile (self-insured bonds involve a bond insurer investing in its own wrapped paper). Similarly, bonds insured by other bond insurers during the economic stress of 2008 have proven to be correlated with a bond insurer's risk profile. In times of stress for the industry or an individual company, the insurer could have limited ability to sell these bonds to pay claims. In factoring in the risk associated with self-insured bonds, the criteria generally exclude bonds for which the insurer can clearly demonstrate that the purchase was made at a distressed value, mitigating the potential for further loss.
96. The analysis evaluates whether a bond insurer maintains an above-average level of investment risk based on holdings such as investments in speculative-grade debt, equities, partnerships, joint ventures, or alternative investment products. The amount of these holdings—collectively called high-risk assets—is compared with equity or surplus to measure the level of this risk. Although these assets might present an attractive investment opportunity, the volatility of an investment portfolio with a high concentration of these assets in times of stress could cause the insurer's capital adequacy to deteriorate beyond the indication of the capital model, which presumes a diversified portfolio of invested assets. The analysis also assesses the average credit quality of the bond portfolio as a risk factor.
97. Relatively speaking, almost all bond insurance companies' investment portfolios are somewhat liquid, but the analysis reviews the portfolio with regard to overall liquidity because insurers might need to liquidate assets quickly to pay claims. The sale of less-liquid assets in a stress period is likely to occur at a loss, reducing capital adequacy. In this analysis, the following asset classes are considered not to be liquid:
- High-risk assets, as defined in paragraph 96

- Privately placed (that is, not publicly traded) assets
- Securities pledged or expected to be pledged in a stress scenario as collateral in reverse-repurchase transactions

## F) Financial Flexibility

98. Financial flexibility reflects an insurer's access to funding in a time of need. The evaluation of a bond insurer's financial flexibility is broken down into requirements of capital and liquidity versus sources of capital and liquidity. Capital and liquidity requirements refer to factors that might necessitate exceptionally large long-term capital or short-term liquidity. Sources of external capital can be new debt or equity or incremental reinsurance usage. Solid return generation provides the best source of long-term flexibility and can facilitate capital raising. Therefore, the returns on equity, assets, and permanent capital are evidence of the company's long-term access to sources of financing.
99. Under these criteria, the most important element of an insurer's financial flexibility is the relationship between the organization's needs for long-term capital and the sources available to it. Companies with modest needs could be quite successful with few sources other than retained earnings, while those that pursue more acquisitions might not be able to satisfy these needs, even with several sources of capital available to them.
100. Within Standard & Poor's ratings framework for bond insurers, financial flexibility would be scored on the following scale: (1) positive, (2) neutral, (3) marginally negative, and (4) negative. Table 19 shows how the assessments of the individual sub-factors get aggregated into the overall score for financial flexibility. Table 20 explains the scoring for each sub-factor.

**Table 19**

Financial Flexibility Scoring	
Ratings framework score	Related sub-factors (see Table 20)
1. Positive	Substantially all sub-factors are scored as most favorable
2. Neutral	The sub-factors are a mix of most favorable and favorable scores with no least favorable scores
3. Marginally negative	The sub-factors are a mix of most favorable, favorable and least favorable scores
4. Negative	Substantially all sub-factors are scored as least favorable

101. The sub-factors are a mix of qualitative and quantitative sub-factors. Generally unusual or nonrecurring items are excluded.

**Table 20**

Financial Flexibility Sub-Factors			
	Most favorable	Favorable	Least favorable
Access to sources of capital and liquidity (paragraph 102)	Substantial sources with significant capacity available from each, overwhelmingly in excess of liquidity and capital needs.	Several sources with capacity available, in excess of liquidity and capital needs.	Limited sources with limited capacity available, or liquidity or capital needs in excess of sources or capacity. Inability to raise capital due to management delay or market acceptance.
Capital raising track record (paragraph 103)	Consistent track record exists of raising capital opportunistically to maintain comfortable capital cushions.	Some track record of raising capital to maintain comfortable capital cushions.	Instances of inability to raise capital due to management delay or market acceptance.
Likelihood of future capital or liquidity needs versus sources (paragraph 104)	Low future capital or liquidity needs or substantial resources to accomplish.	Moderate future capital or liquidity needs or adequate resources to accomplish.	High future capital or liquidity needs with questionable prospective resources.

Table 20

Financial Flexibility Sub-Factors (cont.)			
Debt maturity profile (paragraph 104)	Several issues/facilities, well distributed over 10 years, no significant peaks.	Few issues/facilities, no near-term peaks, but may be medium-term peaks.	Few issues/facilities near- and medium-term peaks.
EBIT interest coverage (x) (paragraph 105)	>10x	10x to 6x	<6x
EBIT fixed-charge coverage (x) (paragraph 105)	>8x	8x to 4x	<4x
Debt leverage (paragraph 106)	< 20%	20% to 35%	> 35%
Financial leverage (paragraph 106)	<30%	30% to 40%	>40%
Reinsurance (paragraphs 107, 108)	Less than 20% of total theoretical losses are from third-party reinsurers and other third-party capital providers.	Theoretical losses from third-party reinsurers and other third-party capital providers range from 20% to 33%.	Theoretical losses from reinsurers and other third-party capital providers are in excess of 33%.
Excess reliance on single third-party reinsurer (paragraph 109)	An assumed zero recovery default of the largest reinsurer in the capital adequacy modeling exercise causes a capital adequacy ratio that remains within the requirement at the current rating level.	An assumed zero recovery default of the largest reinsurer in the capital adequacy modeling exercise causes a capital adequacy ratio decline of no more than 5% below the requirement at the current rating level.	An assumed zero recovery default of the largest reinsurer in the capital adequacy modeling exercise causes a capital adequacy ratio decline of more than 5% below the requirement at the current rating level.

102. Capital and liquidity sources involve an assessment of a company's ability to access short-term and long-term capital. Typically, these sources consist of demonstrated access to multiple types of capital markets, such as the long-term public debt market. In addition, a company might hold assets with significant unrealized capital gains that it could sell without affecting the basic enterprise. These sources are compared with capital and liquidity needs based on management's strategy and any identified cash needs, such as large claims payments, acquisitions, or liability claims.
103. The ability or demonstrated track record of raising common equity capital is another important indicator of financial flexibility. Companies viewed as most favorable would have a consistent track record of raising capital opportunistically to maintain comfortable capital cushions. Alternatively, companies viewed as least favorable would have experienced an inability to raise capital because of management delay or market acceptance.
104. Capital and liquidity requirements refer to factors that might give rise to an exceptionally large need for long-term capital or short-term liquidity. The exceptional capital and liquidity requirements in the financial flexibility analysis tend to relate to the company's strategic objectives. Examples include an acquisition, expansion, or rapid growth strategy that might or might not be funded by existing capital and retained earnings. Capital and liquidity requirements also relate to maturing debt. Standard & Poor's reviews a company's debt maturities relative to resources available and prospective capital-raising capabilities. The overall financial flexibility analysis views concentrated maturities less favorably.
105. By far, the best source of long-term flexibility is created through generating good returns. Therefore, the relationship of earnings before interest and taxes to interest expense (EBIT interest coverage) and the relationship of earnings before interest and taxes to interest expense and dividends payable (grossed up for taxes) on preferred stock and hybrids (EBIT fixed-charge coverage) can inform the view of the company's long-term access to sources of financing. The denominator includes imputed interest on finance leases and operating leases in both of these ratios. For the purposes of calculating these sub-factors, the analysis uses currently available numbers, adjusted for new issues and

redemptions.

106. The analysis also evaluates management's policies toward financial risk and its appetite for financial risk tolerances, especially in light of prior actions. The assumption of high levels of debt or preferred stock and hybrids relative to capital can strain a company's financial risk profile, especially in times of stress. The analysis evaluates this risk through the measurement of debt leverage and financial leverage. Debt leverage is defined as total debt (excluding qualified hybrids) + nonqualifying hybrids/capital + total debt + total hybrids. Financial leverage is defined as (total debt + total hybrids)/(capital + total debt + total hybrids). Capital excludes accumulated other comprehensive income and aftertax unrealized gains or losses on credit derivatives (with the exception of credit impairments on those derivatives) as well as fair-value adjustments related to the company's own credit risk. For purposes of calculating these sub-factors, the analysis uses currently available numbers, adjusted for new issues or redemptions.

### Reinsurance

107. One other common source of financing for insurance companies is reinsurance. Pure coinsurance of risks from a variety of high-quality sources can be a valuable source of capital and financial flexibility, while surplus relief transactions with little risk transfer are assigned little value. Ceding business to multiline reinsurers has advantages from a correlation perspective relative to ceding business to more closely correlated monoline reinsurers. Credit for claims paid by reinsurers in the capital model (see paragraph 68) is rating-sensitive and does not give any risk-transfer credit to speculative-grade reinsurers. Standard & Poor's will evaluate a company's procedures for reviewing and acceptance of all reinsurers or other soft capital providers.
108. The analysis monitors the reliance that a bond insurer places on reinsurance and other capital substitutes, such as owners', third-party, or prefunded commitments to provide additional capital. Reliance on such forms of capital (soft capital) is excessive, under the capital adequacy modeling analysis, when they provide more than 33% of an insurer's total claims-paying resources. The capital model excludes the amount of theoretical losses paid by soft capital in excess of 33% (a least favorable sub-factor characteristic) as a resource. This sub-factor does not count collateralized reinsurance as soft capital. Collateralized reinsurance refers to agreements that reinsurers have with ceding companies to pledge collateral in order for the ceding company to better secure the reinsurer's obligation. The analysis takes such arrangements into consideration based on collateral, structure, and documentation. Soft capital usage of less than 20% is viewed as a most favorable sub-factor characteristic, whereas soft capital usage between 20% and 33% is a favorable sub-factor characteristic.
109. The analysis monitors concentrations of soft capital providers as well, using guidelines designed to limit the effect of a nonperforming provider. Reliance on a single provider is measured using an alternative analysis, which projects (holding all other modeling elements constant) the default of the largest soft capital provider. The largest provider is determined based on theoretical losses paid. In most cases, reliance on a single soft capital provider is excessive if, under the alternative analysis, the default of that provider would cause a bond insurer's capital adequacy ratio to drop at least 5% below the capital adequacy ratio expected at the insurer's current rating level. For purposes of this test, exposures to soft capital providers under committed capital facilities (where high-quality, short-term assets are held in trust) or collateralized reinsurance are included in soft capital but do not default.

## G) Bond Insurance Industry Risk

110. The primary sub-factors for scoring a bond insurer's industry risk are cyclical and volatility of operating earnings, competitive and growth environment, industry operating and cost structure and risk, capital, funding and liquidity

characteristics, and the governmental/legal and regulatory environment.

### Industry risk scoring

111. Under these criteria, industry risk is scored on the scale listed in Table 21. Table 22 explains the scoring for each sub-factor used to evaluate industry risk. The overall industry risk score is an average of these sub-factors.

**Table 21**

Industry Risk Scores	
Score	Industry risk score description
1.	Very low risk
2.	Low risk
3.	Intermediate risk
4.	High risk
5.	Very high risk
6.	Extremely high risk

**Table 22**

Bond Insurance Industry Risk Sub-Factors						
Risk factor	Cyclicality and volatility of operating earnings	Competitive and growth environment	Industry operating and cost Structure and risk	Capital, funding, and liquidity characteristics	Governmental/legal and regulatory environment	Overall industry risk score
U.S. bond insurance	Low risk (paragraphs 112 -113)	Intermediate risk (paragraphs 112-113)	Very low risk (paragraphs 112 -113)	Intermediate risk (paragraphs 112 -113)	Very low risk (paragraphs 112 -113)	Low risk (2)

### Major industry risk characteristics for bond insurers

112. Overall, the industry risk score for bond insurers operating principally in all the U.S. municipal market sectors is 2 (low risk). These markets are characterized by favorable government and regulatory environments and solid—if low when compared with other industries—growth potential. Loss potential has historically been low, but a company emphasizing tax-backed and essential-service credits is better positioned for lower losses and less volatility than a company incorporating more corporate- and revenue-based risk in its insured portfolio. Somewhat offsetting these positive factors are questions about business model viability and, at times, a market-driven commodity-like pricing environment, which might not provide the expected return given a high level of stress. Industry risk historically has been somewhat higher than it is currently scored because of participation in structured finance markets with a greater potential for major loss, but this is no longer considered a focus of the companies operating in the sector. However, if competitive practices or focus were to change, the industry risk score could be adjusted.
113. The U.S. public finance market is mature and historically has demonstrated only modest cyclicality; therefore, it is characterized as low risk. The structured finance market showed significant volatility in 2007 through 2010. However, because bond insurers recently have demonstrated very limited appetite for structured exposures and given their existing mix of business, this is not expected to be a factor in the industry risk profile of the sector. Competition and the threat of substitute products or services in the U.S. public finance market create intermediate risk. Letters of credit are a substitute product in the municipal market but exhibit cyclicality depending on banking-sector issues, bank capacity, and competition from the bond insurers. Generally, bond insurers have a very-low-risk cost structure with both low operating costs and labor costs, given their modest staffing and infrastructure needs. Capital needs, particularly for start-ups, can be significant, and the availability of capital is

sometimes a limiting factor. The risk potential for a major loss for a U.S. municipal insurer principally focused on the general obligation and tax-backed sectors of the market is very low. Governmental, legal, and regulatory conditions pose very low risk.

## H) Competitive Position

114. The primary sub-factors for scoring a bond insurer's competitive position are sources of competitive advantage, market share, revenue growth relative to peers, the risk-adjusted pricing ratio, product and geographic diversification, value added by product line, threats to reputation, ownership and legal structure of the organization, and unrelated operations. The aim is to identify a bond insurer's source of competitive advantage or disadvantage. Indeed, competitive position can be one of the decisive factors underlying a final rating decision as the analyst defines the key characteristics of organizational structure and activity that constitute competitive strengths and weaknesses. These strengths and weaknesses are intricately tied to the insurer's strategy and operational effectiveness and will strongly influence its financial profile. The analysis of a company's competitive position in each major sector and region of activity determines an insurer's potential for satisfactory performance. At the same time, such an analysis also likely highlights whether any significant diversification into new activities or new regions or sectors has added to or diminished the level of risk within the company relative to likely returns.
115. Evaluating a company's competitive position involves the interpretation of the basic facts and data associated with insurance sectors and risk types, premium volumes and rates, market shares, and technical performance. Generally, a bond insurer is considered to have a strong competitive advantage when management has demonstrated the ability to attract and select high-quality, low-risk (low frequency and low severity of loss) business that it prices appropriately. A bond insurer's strengths and weaknesses in the marketplace often determine the company's future performance. An assessment is performed that considers the success of a company's core business; degree of sector, obligor, and geographic diversification; and success of niche strategies. Ultimately, a bond insurer's competitive advantage should translate into operating performance that is superior to that of the industry, strong growth characteristics, or both. In some cases, similar profitability sub-factors are used to score both competitive position and operating performance. In general, these sub-factors are judged relative to peers in the market for competitive position, whereas operating performance focuses on absolute return sub-factors.

### Relative importance of competitive position sub-factors in determining the competitive position score

116. Within Standard & Poor's ratings framework for bond insurers, competitive position is based on the following scale: (1) extremely strong, (2) very strong, (3) strong, (4) adequate, (5) less vulnerable, and (6) more vulnerable. Table 23 shows how the assessments of the various sub-factors get aggregated into the final score for competitive position. Table 24 explains the scoring for each sub-factor.

**Table 23**

Competitive Position Scoring	
Ratings framework score	Related sub-factors (see Table 24)
1. Extremely strong	Substantially all sub-factors are scored as most favorable.
2. Very strong	The sub-factors are a mix of most favorable and favorable scores, with the majority scored as most favorable.
3. Strong	The majority of sub-factors are scored as favorable or most favorable, with no sub-factors scored as least favorable.
4. Adequate	All sub-factors are scored as favorable or better, with few if any scored most favorable.
5. Less vulnerable	The sub-factors are a mix of favorable and least favorable scores.
6. More vulnerable	A majority of all sub-factors are scored least favorable.

117. The scoring uses a mixture of qualitative and quantitative sub-factors. Projections, when used, are an expectation of prospective performance over a three-year time horizon. Projections are based on the company's performance and trends during the past five years, the company's strategy, and expectations of its ability to execute that strategy. Items considered unusual or nonrecurring are excluded.

**Table 24**

<b>Competitive Position Sub-factors</b>			
	<b>Most favorable</b>	<b>Favorable</b>	<b>Least favorable</b>
<b>Market position and competitive advantage</b>			
Sources of competitive advantage (paragraph 118)	Maintains cost advantages or financial strength or reputational advantages over competition. Sustainable competitive advantages in most sectors offering long-term profitability combined with low volatility even in stress situation.	Competitive cost structure, acceptable financial strength and reputation. Competitive position is such that not all sectors offer good prospects of long-term viability and volatility may be present in stressed environments.	No sustainable competitive advantages. Competitive position is such that the long-term viability of most sectors is in question and portfolio volatility is likely.
Market share/market profitability (paragraph 120)	Above-average market share in significant markets, with limited concentrations to specific credits or sectors or has high market share that is sustainable over the long term in product or geographic niches. Operations are in markets that afford strong financial performance.	Average to slightly below-average market share with limited concentrations to specific credits or sectors. Operates in competitive markets, but still produces good financial performance.	Low market share. Concentrations in evidence. Alternatively, has moderate or high share in highly competitive or irrational markets.
Revenue growth relative to peers (paragraph 120)	Recent and projected revenue growth superior to peers and underlying markets.	Recent and projected revenue growth equivalent to peers and underlying markets.	Recent and projected revenue growth equivalent below peers and underlying markets. Revenue growth projected to produce least favorable key operating performance sub-factors.
Risk-adjusted pricing ratio (paragraph 120)	Risk-adjusted pricing ratios indicative of pricing leadership/above-average pricing.	Risk-adjusted pricing ratios reflect acceptable pricing or somewhat lower pricing, which may be a function of underwriting conservatism.	Risk-adjusted pricing ratios reflect below-average pricing or underwriting position.
<b>Product and geographic diversification</b>			
Product and geographic diversification (paragraph 122)	Broad sector, obligor, and geographic insured portfolio diversification.	Some marginal geographic, obligor, or sector concentration relative to industry averages.	Limited diversification, or diversification achieved through under pricing of products.
Value added by product line (paragraph 122)	High value added in most product lines and potential volatility of the insured portfolio is low.	Moderate value added in most product lines and moderate risk of volatility in the insured portfolio.	Low value added in most product lines and strong potential for insured portfolio volatility.
<b>Legal organization</b>			
Ownership and legal structure of organization (paragraph 123)	Ownership and legal structure of organization enhance company's ability to operate effectively.	Ownership and legal structure of organization neither enhance nor impede company's ability to operate effectively.	Ownership and legal structure of organization impede company's ability to operate effectively.
Unrelated operations (paragraph 124)	Revenue from nonbond insurance subsidiaries less than 5% of consolidated revenue and capital charge on nonbond insurance subsidiaries less than 5% of aggregate capital charges.	Revenue from nonbond insurance subsidiaries less than 10% of consolidated revenue and capital charge on nonbond insurance subsidiaries less than 10% of aggregate capital charges.	Revenue from nonbond insurance subsidiaries greater than 10% of consolidated revenue and capital charge on nonbond insurance subsidiaries greater than 10% of aggregate capital charges.

**Market position and competitive advantage**

118. The competitive strengths of a bond insurer strongly influence the quality of business that it underwrites. Therefore, the criteria evaluate the sources of an insurer's competitive advantage, the presence of which helps favorably

differentiate an insurance provider in its marketplace. This allows the insurance provider to compete more effectively against peers and, in turn, improves its ability to write more business, earn higher margins, or both. When these sources of competitive advantage are identified as offering long-term profitability combined with low volatility of profits under stress conditions, the insurer will be viewed more favorably. Alternatively, companies with no sustainable competitive advantages are assessed as least favorable for this factor. These companies' competitive position is such that the long-term viability of most sectors is uncertain, and portfolio profit volatility is likely. A company would be assessed as favorable when some but not all sectors are viewed as offering good prospects for long-term viability and moderate profit volatility in stressed environments is possible. Competitive advantages could include a brand name that inspires great customer confidence and loyalty, market-segment dominance, superior underwriting, and a cost base that allows competitive pricing at sustainable and satisfactory margins. Quality of service could also be a competitive advantage, but it is one that nearly all the insurers claim and thus could be more a prerequisite for market success than a facilitator of it.

119. The presence of distinct competitive advantages across major product lines will likely suggest that a company's current market franchises will improve or, at the very least, remain relatively stable in the face of competition. Meanwhile, the analysis of operating performance, under a separate section of the analysis, will also help substantiate whether management is translating any perceived business strengths into incremental earnings. However, because of substantial claims associated with the mortgage and housing market collapse, periodic price wars, and fluctuating investment markets, among other reasons, Standard & Poor's recognizes that the degree of correlation between competitive position and operating performance could vary over time.
120. The criteria use the following factors in evaluating market position and competitive advantage:
  - Market share (current year and five-year compound annual growth rate; CAGR) by gross par written, net par outstanding, and the present value of premium of the total firm and by major sectors. An above-average market share as a result of cost advantages, financial strength, or reputational advantages in significant markets is considered most favorable. Alternatively, a high market share that is sustainable over the long term in product or geographic niches is usually also consistent with strong ratings. Market share is evaluated to determine if it will facilitate strong financial performance going forward. Equally important is how a company obtains and maintains its market share. A company's score is negatively affected if difficulties within the insured portfolio are expected to limit the insurer's market presence or acceptance with issuers and compare unfavorably with those of peers.
  - Recent (five-year CAGR) and projected revenue growth, as measured by the present value of gross up-front and installment premiums on insurance and credit derivative contracts written in the period on an overall basis and in the various major sectors in which a company operates. Over the intermediate term, highly rated companies are expected to have good growth prospects. However, a strategy of growth for growth's sake can be an unsuccessful strategy and might be problematic in soft markets, when insurers often obtain excess growth only by underpricing business. Accordingly, the criteria take into account that no growth or slow growth might be better at times to preserve earnings and capital. The criteria identify insurers that are gaining market share by underpricing—that is, where it is believed that the business underwritten will produce any least-favorable key operating performance sub-factors (see Table 16). These insurers would be viewed as having unfavorable revenue growth relative to peers.
  - The risk-adjusted pricing ratio (the weighted-average premium rate for a book of business, divided by its weighted average capital charge) for the major sectors in which a company operates (such as public finance and

structured finance). Highly rated companies are expected to generate above-industry-average margins relative to the risks they assume. The risk-adjusted pricing ratio lends insight into the risk/return characteristics of a book of business and a bond insurer potentially prioritizing by market share. Holding risk (the book of business's weighted average capital charge) constant, the measure allows for pricing comparisons on company-trend and industry-wide bases.

### **Product and geographic diversification**

121. Diversification is the essence of insurance: pooling risks so that the losses incurred by a minority can be settled using the premiums paid by the majority. At a fundamental level, a sufficient degree of size and diversification is essential for an insurer to cover fixed costs, avoid adverse selection, and increasingly enjoy the benefits of the actuarial law of large numbers, whereby the frequency and severity of seemingly random events becomes accurately quantifiable. However, beyond this minimum level, every reasonably successful company comes to a point where it has a choice between aiming to maintain a stable, status quo business strategy and conscious diversification by developing or acquiring new activities or by expanding or buying into new regions. Neither strategy is without risk.

122. The criteria use the following factors when evaluating diversification:

- Diversification of risk and revenue by sector and geographic location. The most favorable scenario is to have a broad national presence, maintaining competitive advantages in its markets and thus possibly leading to long-term profitability. In addition, an international presence in low-risk sectors in highly rated sovereign countries where it is believed that management would be able to execute its plans for positive results effectively is viewed favorably. Standard & Poor's looks for comprehensive diversification of business by sector, obligor, and geography within the public finance market for an insurer's diversification to be considered most favorable. A risk associated with this business model is that, as has occurred historically, competitive pressure and economic cycles will result in pricing or underwriting competition for the purposes of trying to maintain financial results. Therefore, management's track record of pricing and underwriting discipline is evaluated.
- Value proposition and potential volatility of the insured portfolio. The most favorable scenario is for an insurer to have high-value-added products in most lines of business with margins at least as good as the industry average. Relatively low capital charges and a preponderance of underlying transactions with solid investment-grade ratings are characteristics of a low-volatility portfolio. Companies that have demonstrated strong underwriting resulting in low losses for RMBS and CDO of ABS products generally would be considered as favorable or most favorable when evaluating structured finance product lines. In addition, risk-management policies that strongly restrict sectors and asset classes with the potential for high loss severity are other characteristics of a low-volatility portfolio.

### **Legal organization**

123. Under the criteria, whether the ownership and legal structure of the organization enhances or impedes the company's underwriting process, risk controls, balance sheet management, or its ability to meet growth and revenue targets is evaluated. The discussion of an insurer's legal organization would succinctly address factual considerations of who owns the company under review, what the legal structure of the organization is, and the significant sibling companies and subsidiaries within the group. More significantly, analysts evaluate whether the legal structure is effective for meeting the company's growth and revenue targets and, of equal importance, whether any other associated operations outside the current analysis could directly or indirectly hinder the financial strength of the bond insurer. (Additional perspective and criteria concerning organizational structure can be found in "Group Methodology," published April 22, 2009.)

124. The criteria incorporate an evaluation of the financial strength and business strategies of nonbond insurance subsidiaries and affiliates. Bond insurance holding companies have, from time to time, sought to diversify into nonbond insurance subsidiaries to enhance growth prospects and seek higher profitability. The capital charges assigned to these businesses are intended as proxies for the risks of these businesses and are based on the assessment of the potential risk to the bond insurer as the deep pocket of the group to cover losses or capital needs of the subsidiaries. Revenue from nonbond insurance sources as a percent of total revenue would be calculated for a company and compared with other companies and the industry average. Likewise, the criteria calculate capital charges assessed to these businesses as a percent of total capital charges in comparison with other companies and the industry average. Nonbond insurance businesses are typically viewed as neutral or unfavorable because, historically, expansion into areas outside of core competencies has generally resulted in poor or mediocre performance for those units. However, such business could be viewed more favorably from a group perspective if it adds minimum risk and is compatible with the group's core competencies.

## I) Management And Corporate Strategy

125. Management's strategic competence, operational effectiveness, and risk tolerance shape a company's competitiveness in the marketplace and the strength of its financial profile. If it is concluded that management played a positive role in determining an enterprise's operational success, it is reflective of management's ability to mitigate important strategic and operating risks in the future. Alternatively, a weak management with a flawed operating strategy or an inability to execute its business plan effectively will substantially increase a company's risk profile. (See "Management And Corporate Strategy Of Insurers: Methodology And Assumptions," published Jan. 20, 2011, for a description of how this category is analyzed.)

## J) Liquidity

126. The primary sub-factors for scoring a bond insurer's operating performance are confidence-sensitive liability coverage, collateral posting requirements, credit default swap termination risk, collateral eligible GIC assets, operating cash flow, underwriting cash flow, asset liquidity, cash and short-term investments plus securities maturing in one year to loss and LAE reserves payable over the next 12 months, bank lines of credit, and debt covenant/triggers.
127. Within Standard & Poor's ratings framework for bond insurers, operating performance is scored on the following scale: (1) exceptional, (2) strong, (3) adequate, (4) less than adequate, and (5) weak. Table 25 shows how the assessments of the various sub-factors get aggregated into the final score for liquidity. Table 26 explains the scoring for each sub-factor.

**Table 25**

Liquidity Scoring	
Ratings framework score	Related sub-factors (see Table 26)
1. Exceptional	Substantially all sub-factors are scored as most favorable.
2. Strong	The sub-factors are a mix of most favorable and favorable scores.
3. Adequate	The sub-factors are substantially all scored as favorable with no least favorable scores.
4. Less than adequate	The sub-factors are a mix of favorable and least favorable scores; or any confidence sensitive liability factor is scored as least favorable.
5. Weak	Several sub-factors are scored as least favorable or any one sub-factors presents potential for severe stress.

128. The scoring uses a mixture of qualitative and quantitative sub-factors. Projections, when used, are an expectation of prospective performance over a three-year time horizon. Projections are based on the company's past performance and trends during the past five years, the company's strategy, and an expectation of its ability to execute that strategy. The criteria exclude what are considered to be unusual items that are nonrecurring.

Table 26

<b>Liquidity Sub-factors</b>			
	<b>Most favorable</b>	<b>Favorable</b>	<b>Least favorable</b>
<b>Confidence-sensitive liabilities factors</b>			
Confidence-sensitive liability coverage (paragraph 129)	Confidence-sensitive liabilities covered well in excess of 100% by back-up credit facility + liquid assets. (Assuming a two rating category downgrade).	Confidence-sensitive liabilities covered 100% by back-up credit facility + liquid assets. (Assuming a two rating category downgrade).	Confidence-sensitive liabilities covered less than 100% by back-up credit facility + liquid assets. (Assuming a one rating category downgrade); or has underwritten a material number of contracts (greater than 30% of adjusted equity) that requires the payment of principal and interest upon issuer default.
Collateral posting requirements (paragraph 130)	Notional exposure to GICs plus any other insurance contracts where collateral posting is required or contingently required, assuming a two rating category downgrade, must be less than 15% of total assets.	Notional exposure to GICs plus any other insurance contracts where collateral posting is required or contingently required, assuming a two rating category downgrade, must be less than 30% of total assets.	Notional exposure to GICs plus any other insurance contracts where collateral posting is required or contingently required, assuming a two rating category downgrade, is more than 30% of total assets.
Credit default swap termination risk (paragraph 131)	Assuming a two rating category downgrade, the mark-to-market termination payment as a percentage of adjusted equity is less than 15%.	Assuming a two rating category downgrade, the mark-to-market termination payment as a percentage of adjusted equity is less than 30%.	Assuming a two rating category downgrade, the mark-to-market termination payment as a percentage of adjusted equity is more than 30%.
Collateral eligible GIC assets (paragraph 132)	75% or more of GIC assets are eligible to be posted as collateral for the benefit of GIC investors.	50% or more of GIC assets are eligible to be posted as collateral for the benefit of GIC investors.	Less than 50% of GIC assets are eligible to be posted as collateral for the benefit of GIC investors.
Bank lines of credit (paragraph 133)	Bank line of credit with a term greater than three years with company exceeding all covenant requirements by significant margins. No covenants, triggers or contingent call on capital that could result in liquidity strain or cancellation of existing facilities. No MAC language.	Bank line of credit with a term of between one and three years with company reasonably exceeding covenant requirements. No covenants, triggers or contingent call on capital that could result in liquidity strain or cancellation of existing facilities.	Bank line of credit renews annually. Company marginally exceeds or at risk of breaching covenant requirements. Contingent call on capital exist, or covenants or triggers are present that if violated would result in liquidity strain or cancellation of facilities.
Debt covenants/triggers (paragraph 134)	In excess of all covenant requirements by significant margins. No covenants, triggers or contingent call on capital that could result in liquidity strain or cancellation of existing facilities. Not at risk to non-economic changes in accounting.	Reasonably in excess of covenant requirements. No covenants, triggers or contingent call on capital that could result in liquidity strain or cancellation of existing facilities. Not at risk to non-economic changes in accounting.	Marginally in excess of or at risk of breaching covenant requirements. Contingent call on capital exist, or covenants or triggers are present that if violated would result in liquidity strain or cancellation of facilities. Potentially at risk to non-economic changes in accounting or MAC language.
<b>Other liquidity factors</b>			
Operating cash flow (paragraph 135)	Consistently strong and positive.	Generally positive but variable.	Several negative periods.
Underwriting cash flow ratio historically and prospectively. (net premiums collected / (losses and LAE + paid underwriting expenses) (paragraph 135)	Consistently and significantly greater than 100%.	Usually greater than 100% but with some variability.	Several periods where underwriting cash outflows exceed underwriting cash inflows.

Table 26

Liquidity Sub-factors (cont.)			
Asset liquidity (paragraph 136)	90% of financial assets are high quality and liquid. De minimis bonds rated less than 'A-' and equity securities.	80% to 90% of financial assets are high quality and liquid. Equities and bonds rated below 'A-' less than 5%.	Less than 80% of financial assets are high quality and liquid. Equities and bonds rated below 'A-' greater than 5%.
Ratio of cash and short-term assets + securities maturing in one year to loss and LAE reserves payable in the next 12 months (%) (paragraph 136)	Greater than 120%.	Greater than 100%.	Less than 100% (this outcome most likely results in a score of 5).

129. The criteria evaluate the amount of confidence-sensitive liability coverage. To maintain high levels of financial strength given the substantial operating leverage that the bond insurers employ, whether a given insurer manages liquidity risk conservatively is evaluated. In part, this can be accomplished by standard financial guaranty policy language that typically requires payment on defaulted interest and principal only as it comes due. Conversely, because bond insurers do not have access to large quantities of funding needed to participate in products that have cash-on-demand characteristics or run-on-the-bank potential, exposure to these sorts of risks could result in lower ratings. Where there are confidence-sensitive liabilities, such as collateralization requirements or swap termination agreements, these confidence-sensitive liabilities are compared against a company's liquid investments and line-of-credit capacity. When the back-up credit facility plus liquid assets (assuming a downgrade of two rating categories) cover less than 100% of confidence-sensitive liabilities, or when the insurer has underwritten a material exposure (relative to adjusted equity) that requires the payment of principal and interest upon issuer default, liquidity is not scored higher than less than adequate.
130. The analysis evaluates collateral posting requirements. Significant calls on cash or requirements to collateralize payment streams are generally inconsistent with investment-grade ratings. The criteria include a sensitivity test for a two-rating-category downgrade of the bond insurer. If termination payments or collateral posting requirements triggered by a theoretical downgrade of two rating categories are more than 30% of total assets, liquidity is not scored higher than less than adequate.
131. The analysis evaluates credit default swap termination risk. Credit default swap contracts often include a termination payment upon the downgrade of a counterparty. The analysis evaluates the mark-to-market termination payment, assuming a two-rating-category downgrade, as a percentage of adjusted equity. If this termination payment as a percentage of adjusted equity is more than 30%, liquidity is not scored higher than less than adequate.
132. The analysis evaluates the amount of collateral-eligible GIC assets. When a bond insurance affiliate provides GICs, those contracts may at times require collateral posting at inception, and at other times an event or circumstance will trigger a collateral posting requirement. The investment of GIC-related assets in collateral-eligible securities facilitates potential collateral posting. Alternatively, investment in non-eligible securities, though likely beneficial from a spread perspective, heightens the risk of not meeting a collateral call. The terms of the investment contract will govern asset/collateral eligibility.
133. The analysis evaluates other outside sources of liquidity, such as bank lines of credit, which an insurer can use to pay claims, repay maturing debt, or service other liquidity needs. Bank lines of credit, from banks rated in the 'A' category or higher, are a viable source of liquidity subject to the terms and conditions of the facility. If bank lines contain restrictive covenants—such as minimum net worth or debt-to-EBITDA—an insurer generally is expected to

be in excess of these requirements to achieve a favorable score. That is, a moderate stress scenario should not put the company at risk of breaching any covenants. Covenants, triggers, or a contingent call on capital that could result in liquidity strain or the cancellation of existing facilities are indications of an insurer with potential liquidity problems in a stress scenario. The presence of material adverse change clauses (MAC language) diminishes the availability of bank lines in times of stress.

134. The analysis evaluates the bond insurer's position relative to debt covenants and triggers. Debt covenants are reviewed from the perspective of a potential liquidity need. If debt instruments contain restrictive covenants, the analysis will evaluate these in the same manner as bank line covenants. As is the case with bank lines, covenants, triggers, or a contingent call on capital that could result in liquidity strain or cancellation of existing facilities are indications of an insurer that may have potential liquidity problems in a stress scenario.
135. The analysis evaluates the level of operating cash flow and the underwriting cash flow ratio for the past five years and projected for the next three years. An important source of liquidity is the insurer's operating cash flows as well as its underwriting cash flows. The up-front, one-time premium payment feature typical of a municipal policy is a positive industry-wide cash flow feature. The analysis measures both the absolute level of cash flow from operations (the operating cash flow) as well as the underwriting cash flow ratio (premiums collected divided by paid losses, paid loss expenses, and underwriting expenses). These measures help analyze whether insurance underwriting activities are healthy.
136. The analysis evaluates the amount of asset liquidity and the ratio of cash and short-term assets plus securities maturing in one year to loss and LAE reserves payable in the next 12 months. The quality and related liquidity of the insurer's investment portfolio are also reviewed (see also Investments paragraphs 90-97). Cash and short-term investments rated at least 'A-/A-1' are compared with reserves payable over the next 12 months. Equity securities in any form and fixed-income securities that are rated in or below the 'BBB' category are viewed as higher-risk investments and are generally inconsistent with higher financial strength ratings.

## K) Enterprise Risk Management For Bond Insurers

137. Standard & Poor's ERM evaluation process provides an assessment about the likelihood that an insurer will be able to perform within its stated risk appetite and risk tolerances. Institutions with robust processes that are well integrated into enterprise functions would be scored highly. Institutions with weaker risk-management capabilities or poorly integrated risk management will be scored lower. The criteria consider ERM to be important to bond insurer ratings; it can either raise or lower the final rating. The primary sub-factors for scoring a bond insurer's ERM are risk-management culture, risk-management controls, emerging risk management, risk and economic capital models, and strategic risk management. (For descriptions of how this category is analyzed, see "Summary of Standard & Poor's Enterprise Risk Management Evaluation Process For Insurers," Nov. 26, 2007; "Refined Methodology For Assessing An Insurer's Risk Appetite," March 30, 2010; "Expanded Definition Of Adequate Classification In Enterprise Risk Management Scores," Jan. 28, 2010; "Methodology: Assessing Management's Commitment To And Execution Of Enterprise Risk Management Processes," Dec. 17, 2009; "Evaluating The Enterprise Risk Management Practices Of Insurance Companies," Oct. 17, 2005; and "Refining The Focus Of Insurer Enterprise Risk Management Criteria," June 2, 2006.)

## L) Rating Start-Up Bond Insurers

138. Standard & Poor's insurance criteria typically include an expectation of at least a five-year operating track record demonstrating the effectiveness of management strategy and execution. The bond insurer criteria enable us to rate start-up bond insurers without the benefit of a track record (or explicit support) based on the initial review of the insurer's business plan, the qualifications of its senior management, the commitment and oversight of the owners, and the underwriting and risk-management guidelines, with semiannual follow-ups to review progress. Finally, the analysis evaluates whether a start-up company's initial capital level is expected to provide a significant capital cushion during the early years of the insurer's life while it is developing a diversified book of business and is more susceptible to errors in underwriting or business plan execution. Under these criteria, initial equity capital of less than approximately \$500 million would not be consistent with ratings in the 'AAA', 'AA', or 'A' categories.
139. In reviewing the company's business plan, it is necessary to evaluate certain risks. If the risks the company proposes to undertake cannot be evaluated or perceived deficiencies in management's ability to underwrite or maintain sufficient risk controls over its operations are identified, the start-up bond insurer might not be ratable.
140. When rating a start-up bond insurer, Standard & Poor's evaluates whether management has a track record in successfully managing and underwriting its chosen businesses. In the business plan, the analysis looks for a road map of what management would expect to be doing for the next five years, including how much business it would expect at the beginning and in what sectors, how quickly it aims to grow in each of these sectors, and how that growth in business relates to the capital that it would expect to have in this entity over the planning horizon. The analysis evaluates whether the business plan includes a description of the competitive advantages the company has that will enable it to generate profitable growth and acceptable returns to investors on the capital employed. To rate a start-up, a key question is whether the company's projected capital adequacy will be greater than the level commensurate with the assigned rating over the intermediate term (three years) and remain consistent with the assigned rating throughout the term of the business plan (five years).
141. The analysis also evaluates management and its ability to implement the business plan. A proven track record of underwriting performance and profitable revenue growth by management with other companies is helpful in evaluating management's capability. The analysis looks for evidence of prior prudent underwriting that demonstrates the capability to write profitable business and that could indicate at a high level of confidence that the company can monitor and determine capital adequacy.
142. To ascertain whether the start-up has the financial flexibility to maintain a level of capital adequacy consistent with the assigned rating over a longer-term horizon, the analysis looks for demonstrated ability to tap several sources of additional capital if needed. These sources potentially include reinsurance, hybrid issuance, and additional equity offerings. Debt usage by the start-up in the initial capitalization of the company or as a near-term source of capital may be viewed negatively given the company's immature earnings stream. If the start-up has aggressively tapped one or more of these sources, the analysis may question the company's ability to maintain capital adequacy consistent with a high rating.
143. The analysis of the start-up company includes reviewing:
  - A detailed, credible, five-year business plan, including income statement, balance sheet, and cash-flow statement
  - A well-defined statement of risk tolerance

- Key projected business statistics, including average premium rates by sector and in aggregate, par insured, par outstanding, and principal and interest insured and outstanding
- A presentation of the capital-management strategy, including details regarding capital structure, reinsurance and soft capital usage, dividend philosophy, share-repurchase strategy, and future capital market issuances
- Detailed underwriting guidelines to be applied in assessing issues and issuers
- Significant risk-management and ERM control philosophies and guidelines—including largest obligors risk, geographic dispersion, sector concentration, foreign-currency exposure, and (if a reinsurer) ceding company concentration
- Biographies of all senior managers
- Charter, by-laws, and stockholders agreements along with biographies for the board of directors. Also, committee charters and ethics and compliance policies
- A list of major owners and contact information
- Key regulations that affect the insurance company and holding company
- A liquidity plan and guidelines for maintenance of liquidity
- An overview of the planned use of reinsurance and the types of coverage sought as a risk-management tool
- Investment guidelines specifying average credit quality, rating distribution, issuer/industry limitations, maturity profile, and duration matching
- The insurers' capital adequacy model, presented using Standard & Poor's guidelines. At the same time, the new insurer should provide Standard & Poor's with data to allow us to model the insurer's projected capital adequacy.

144. These would be viewed as minimum documentation standards specific to rate a start-up bond insurer, unless it receives explicit support from a rated entity.

### **Start-up bond insurers and the capital model**

145. The criteria also use the model to analyze start-up bond insurers. For these companies, the pro forma projections extend for nine years as opposed to seven for a mature company. The first five years for a start-up bond insurer are business growth years, and the final four are the stressful period. The additional two years of growth put greater stress on capital for the start-up company because the pro forma book of business is larger.
146. The capital model also plays a role in the final rating conclusion for a start-up company. For an established company, its existing book of business is known, and projected business is likely to evolve based on the company's track record of writing new business relative to its financial plans. It is not unusual for the growth of a start-up's insured portfolio to develop outside of initial projections, making modeling results less reliable. The limited size and lack of diversity of the insured portfolio for a start-up lessens the certainty regarding its output. For a start-up company, the overcapitalization usually apparent during its formative years of operation somewhat offsets the less-precise modeling output.

## **VIII. RELATED CRITERIA AND RESEARCH**

- Principles Of Credit Ratings, Feb. 16, 2011
- Management And Corporate Strategy Of Insurers: Methodology And Assumptions, Jan. 20, 2011
- Methodology: Credit Stability Criteria, May 3, 2010
- Refined Methodology For Assessing An Insurer's Risk Appetite, March 30, 2010

- Expanded Definition Of Adequate Classification In Enterprise Risk Management Scores, Jan. 28, 2010
- Assessing Management's Commitment To And Execution Of Enterprise Risk Management Processes, Dec. 17, 2009
- Update To Global Methodologies And Assumptions For Corporate Cash Flow And Synthetic CDOs, Sept. 17, 2009
- Holding Company Analysis, June 11, 2009
- Understanding Standard & Poor's Rating Definitions, June 3, 2009
- Group Methodology, April 22, 2009
- Summary Of Standard & Poor's Enterprise Risk Management Evaluation Process For Insurers, Nov. 26, 2007
- Standard & Poor's Methodology For Setting The Capital Charge On Project Finance Transactions, Sept. 12, 2007
- Refining The Focus Of Insurer Enterprise Risk Management Criteria, June 2, 2006
- Evaluating The Enterprise Risk Management Practices Of Insurance Companies, Oct. 17, 2005

This list of articles represents criteria that are superseded by this publication:

- Request For Comment: Probabilistic Model For Assessing The Capital Adequacy Of Financial Guarantors, Sept. 6, 2007
- Bond Insurance Industry Overview And Analytical Focus, June 29, 2006
- Asset-Backed Capital Charge Methodology For Bond Insurers, March 24, 2004
- Understanding The Bond Insurance Capital Adequacy Model, June 16, 2003
- Standard & Poor's Reassesses Credit Given For Reinsurance And Soft Capital In Its Bond Insurance Capital Adequacy Model, Jan. 31, 2003

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