Article Title: ARCHIVE | Criteria | Insurance | Bond: Asset-Backed Capital Charge Methodology For Bond Insurers Data: (EDITOR'S NOTE: — This criteria article is no longer current. It has been superseded by "Bond Insurance Rating Methodology And Assumptions," published Aug. 25, 2011.) When it comes to assigning capital charges, Standard & Poor's Ratings Services' approach to and methodology for determining a structured finance charge is very different from a public finance sector capital charge. Whereas public finance charges are generic in the sense that a shadow rating and sector allow for the charge to be found on a public finance capital charge table, the structured finance charge requires an in-depth analysis of each new transaction, the assignment of a shadow rating, and the determination of loss coverage levels of protection for various rating levels. Further complicating the process relative to public finance charges is the degree of sophistication and innovation associated with the growth and maturity of the asset-backed market. The relatively simply, plain vanilla mortgage backed security structure of the 1970s has given way to include a broad array of asset classes, currency and interest rate swaps, commercial paper conduits, future flow transactions, securities with multiple tranches, and so on. Standard & Poor's asset-backed capital charge methodology has kept pace with this evolution, as outlined below. Capital Charges Capital charges are the loss expectation for an insured transaction in the context of a large portfolio of transactions, under stressed economic conditions. The charges include a worst-case assumption for default frequency and loss severity. For a bond insurer, the sum of all individual capital charges represents the loss expectation for the entire portfolio of insured transactions. On any insured asset-backed transaction, the risk to the insurer is a function of the amount of credit protection (first-loss protection) in place in front of the insurer; i.e., the greater the protection, the lower the risk. Using Standard & Poor's default studies to define the probability of loss, a formula was developed that computes capital charges that reflect the various incremental values of credit protection for transactions with investment-grade underlying ratings. The "root" capital charge formula. For transactions structured to minimum investment-grade levels ('BBB-'), the capital charge to the insurer is equal to the portfolio effect (1/4) times the credit gap. For example, assume that if a pool of auto loans was securitized, the transaction would need 6% first loss protection to achieve a rating of 'BBB-' or 18% first loss protection to achieve a rating of 'AAA'. The difference between the amount of protection in the deal (in this case at the 'BBB-' level) and the amount necessary at the 'AAA' level is called the "credit gap." The capital charge for a transaction structured with the minimum amount of first loss protection necessary to achieve a 'BBB-' rating—6% in this example—would simply be equal to 1/4 of the credit gap. The Portfolio Effect Dividing by four (the portfolio effect) is our way of reflecting the value of diversification and the value of the various rights and remedies built into the transactions. We view diversification as a significant positive; it is very unlikely that a portfolio of transactions that is 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. Rights and remedies are difficult to quantify but nevertheless hold real value for the insurer. These will vary from transaction to transaction and include triggers that can result in seizing and liquidating collateral, injecting additional collateral, capturing excess cash flow to pay down insured obligations, or allowing for a new servicer to be put in place. Transactions With A Shadow Rating Above 'BBB-' Capital charges for transactions with first loss protection in excess of the minimum investment-grade requirement are computed based on the following formula: The left hand side of the equation, ('AAA' – 'BBB-' credit gap) divided by 4, is the formula for computing the capital charge for a transaction that just meets the minimum investment-grade standard, as shown in the example above. The right hand side of the equation, [(Investment-grade loss coverage provided divided by 'AAA' - 'BBB-' credit gap) to the 0.7 power], computes the value of the first loss protection provided in excess of the minimum investment-grade level. This will always be a fraction between 0 and 1. One minus this fraction computes the fraction of the risk not covered by first loss protection and thus attributable to the bond insurer. Finally, multiplying the fraction of the risk attributed to the bond insurer times the total risk—the investment-grade capital charge—results in the capital charge for the risk borne by the bond insurer. For example, a pool of receivables to be securitized was analyzed and the following loss coverage levels were established: RATING LEVEL LOSS COVERAGE REQUIREMENT (%) BBB- 7.33 Actual coverage 11.00 AAA 20.00 Using the equation above, the capital charge would be: 3.17 x (1 - 0.42) = 1.84%. Capital Charge

Calculation For Insured Asset-Backed Transactions With Below-Investment-Grade Ratings Capital charges for transactions rated below investment grade are equal to: That portion of the credit gap between the amount of credit protection provided and the amount that would be required to make the transaction investment grade, plus 1/4 of the credit gap between the amount of credit protection necessary to make the deal investment grade and the amount of protection that would be required to make the deal 'AAA'. For example, a pool of receivables to be securitized was analyzed and the following loss coverage levels were established: RATING LEVEL LOSS COVERAGE REQUIREMENT (%) BB 9.00 BBB- 11.00 AAA 23.00 If the transaction was completed and insured and 9% first loss coverage was provided, the transaction would be rated below investment grade. The capital charge would be: That portion of the credit gap between the amount of credit protection provided and the amount that would be required to make the transaction investment grade, plus 11% - 9% = 2% 1/4 of the credit gap between the amount of credit protection necessary to make the deal investment grade and the amount of protection that would be required to make the deal ‘AAA’ (23% - 11%) / 4 = 3% Capital charge = 5% Capital Charge Calculation When The Bond Insurer Has A Financial Strength Rating Of 'AA Or 'A' Capital charges for 'AA' and 'A' rated insurers are computed in the same way—using the same formula as shown above that measures losses up to the 'AAA' level—regardless of the insurer's rating. The rationale for using the 'AAA' standard is simple. Regardless of the insurer's rating, insured transactions can experience losses up to amounts defined by our 'AAA' loss coverage levels. The fact that the insurer is rated less than 'AAA' reflects the fact that its capital is less capable to cover the expected levels of losses. For example, a 'AA' rated bond insurer is expected to have a minimum margin of safety (a capital modeling ratio of funds available to pay losses to losses) of 100%, whereas a 'AAA' financial guarantor is expected to maintain a minimum margin of safety of 125%. In addition, having one methodology streamlines the process of computing a capital charge; the methodology is the same all the time, and different charges do not have to be computed when two (or three) different rated insurers are involved in the same transaction. Transactions Shadow Rated 'AAA' Capital charges are applied to all transactions. The minimum capital charge on any structured finance transaction, known as the alternative minimum capital charge, is 10 basis points of par. Use this capital charge when the underlying rating on a transaction is 'AAA' or when the underlying rating on the transaction is less than 'AAA' and the capital charge calculation results in a charge less than 10 basis points. While some have argued that transactions rated 'AAA' are risk free, we believe that a nominal capital charge is more appropriate for two reasons: 1) default studies show even 'AAA' rated transactions do default, albeit with a very low frequency; and 2) default for reasons other than pool credit quality is also possible. Portion Of The Loss Coverage Protection Provided By Corporate Guarantor The convention for some asset types is for a portion of the loss coverage to take the form of a corporate guarantee. Since there is default risk associated with the "non-cash" loss coverage element, an "add on capital charge" grosses up the capital charge by applying a default factor to this coverage provided by a corporation. The capital charge computation becomes a two-step process: Compute the capital charge using the structured finance capital charge methodology, viewing the first loss protection as "money good." Add a capital charge for the credit risk of the first loss provider. The charges are found in Standard & Poor's criteria piece, "Understanding the Bond Insurance Capital Adequacy Model," which is available on RatingsDirect, Standard & Poor's Web-based credit research and analysis system. The exposure to the first loss provider is viewed as the par amount of a debt obligation of that entity. Example 1. Assumptions: Homogeneous pool of 85% loan to value, first mortgage purchase money loans shadow rated at 'A' with 12% coverage. 'BBB-' coverage = 7% and 'AAA' coverage = 23%. Included within the 12% is a 4% pool policy in which the guarantor receives a capital charge of 6% of par. Pool size is $100 million. The first step is to compute the structured finance capital charge treating the 4% pool policy as money good. Using the formula for investment-grade transactions, this results in a charge of 2.23% of the pool amount, or $2.23 million. The second step is to compute the add-on charge. The par value in this case is the face value of the pool policy or 4% of $100 million, or $4 million. The add-on capital charge is 6% of $4 million, or $240,000. The total charge is $2.23 million plus $240,000 = $2.47 million. Example 2. An interest rate swap is included in a transaction and is provided by an 'A' rated life insurance company counterparty. An analysis of potential replacement costs based on a three standard deviation move in interest rates shows a maximum

replacement cost of $15 million. The add-on capital charge would be $15 million times 3.5% (the capital charge for 'A' rated life insurers, found in criteria piece, "Understanding the Bond Insurance Capital Adequacy Model") = $525,000. This amount is in addition to the regular capital charge computation for the transaction. Capital Charge Calculation For Commercial Paper Conduits Capital charges for commercial paper conduits are handled the same way as any structured finance transaction using the same formula. Example, XYZ Conduit: Total exposure, $5.0 billion; 'BBB-' to 'AAA' credit gap, 8% or $400 million; Cash reserve, $100 million. The capital charge is equal to: = 100 x [1 - 0.38] = $62.11 million. Capital Charge Calculation On CDO Transactions Unprecedented corporate defaults and active portfolio management of many transactions have caused significant negative ratings migration for this asset class, occurring in the 2001 to 2003 time frame. This has prompted Standard & Poor's to conservatively modify its capital charge formula for this class of business. The capital charge formula for CDOs does not employ the right hand side of the standard capital charge equation, which gives greater credit for incremental loss coverage protection above the 'BBB-' level. Rather, it modifies the "root" capital charge formula, resulting in a more conservative capital charge befitting the greater risk associated with this class of business. The left hand side of the equation, ('AAA' – 'BBB-' credit gap) divided by 4, is the "root" formula for computing the capital charge for a transaction that just meets the minimum investment-grade standard. If a CDO transaction has a shadow rating above the minimum investment-grade standard, as is typical for this asset class, the credit gap in the root formula is modified to reflect the incremental protection. It is important to note that, because all junior tranches are sized to theoretically lose all value in a 'AAA' rated loss scenario, the capital charge is calculated as a percentage of the pool amount, not the smaller insured tranche amount. Example: 1 ('AA' tranche wrapped): RATING LEVEL LOSS COVERAGE (%) TRANCHE SIZE ($) AAA 20.00 80,000 AA 16.00 4,000 BBB- 7.30 8,700 Equity 7,300 Total 100,000 Expressed in dollar terms the capital charge is $100,000 x 1.0% = $1,000. Expressed as a percentage of the insured tranche amount the capital charge is $1,000 / $4,000 = 25%. Alternatively, because the tranche has been structured to an investment-grade level of protection, the capital charge for the insured tranche is the tranche amount reduced by the portfolio effect credit, $4,000 / 4 = $1,000. This approach would then yield a capital charge for the 'BBB-' tranche of $8,700 x 25% = $2,175. In the past, insurers would occasionally wrap more than one tranche in a CDO structure. Today this practice is not in evidence given the greater risk of insuring junior-class tranches. Capital charges for multiple insured tranche transactions will be determined on a case-by-case basis. Capital Charge Calculation For Surety Bonds With A Stated Coverage Amount (Partial Sureties) Bond insurers will occasionally write this type of policy to achieve two benefits: 1) In the event that the losses turn out to be more extreme than even our 'AAA' worst-case assessment, they will have capped the amount they will pay in claims; and 2) the insurer gets to report lower exposure for regulatory purposes (the size of the policy rather than the full principal and interest on the transaction as is the case with full wraps). In these "partial sureties," the policy will almost always be sized to equal the coverage required to achieve a 'AAA' rating. Capital charges are computed in the same way as for mezzanine layers where the stated coverage amount defines the upper boundary of the layer covered while the lower boundary is based on the loss coverage provided. In the unlikely event that the policy limit is less than the capital charge, the capital charge should be limited by the stated amount of the policy. If the stated policy amount exceeds the 'AAA' requirement for the transaction, the capital charge is computed simply as if the insurer wrapped the deal rather than having provided a surety bond. Example 1. ASSUMPTIONS Pool size $100 million Loss coverage provided 8.50% ‘BBB-’ Loss coverage level 7.33% ‘AAA’ Loss coverage level 20.00% Stated policy amount $11.5 million First, convert the stated policy amount to a percentage. This is computed as the stated policy amount as a percentage of the pool size. In the example, this becomes $11.5 million divided by $100 million, or 11.5%. Next, compute the capital charge for the upper boundary of the range. Using the structured finance capital charge methodology, the alternate minimum charge applies because the level is equal to or greater than the 'AAA' requirement. The charge is 0.10%, or $100,000. Next, compute the capital charge for the lower boundary of the range. Using the structured finance capital charge methodology, the charge is 2.57%, or $2.57 million. The capital charge for the layer is the difference between the two capital charges: 2.47%, or $2.47 million. Treatment Of Swap Providers At this time, we are not assessing capital charges for swap providers if they are rated in the 'AA' and 'AAA'

categories. Swap providers that are not rated are not acceptable—we have no basis for assigning a capital charge. The capital charge for swap providers rated lower than the 'AA' category is based on the exposure to the swap provider times the capital charge for the provider. The exposure to a swap provider is determined by computing the maximum replacement cost in the event of a default by the counterparty based on an adverse, three standard deviation movement in interest rates (or currencies, as appropriate). The appropriate capital charge for the counterparty is found in Standard & Poor's criteria piece, "Understanding the Bond Insurance Capital Adequacy Model." The exposure to the counterparty is viewed as the par amount of a debt obligation of that entity. See Example 2 in this article under section "Portion of the Loss Coverage Protection Provided by Corporate Guarantor" for an example of a capital charge for a swap provider.