

Criteria | Structured Finance | Covered Bonds:

Revised Methodology And Assumptions For Assessing Asset-Liability Mismatch Risk In Covered Bonds

Criteria Officer - European Structured Finance:

Irene Ho-Moore, London (44) 20-7176-3532; irene_homoore@standardandpoors.com

Senior Credit Officer - Structured Finance:

Francis Parisi, Ph.D., New York (1) 212-438-2570; francis_paris@standardandpoors.com

Chief Credit Officer For Europe:

Blaise Ganguin, Paris (33) 1-4420-6698; blaise_ganguin@standardandpoors.com

Lead Analytical Manager - European RMBS, CMBS, And Covered Bonds:

Karen Naylor, London (44) 20-7176-3533; karen_naylor@standardandpoors.com

Analytical Manager - European Covered Bonds:

Karlo Fuchs, Frankfurt (49) 69-33-999-156; karlo_fuchs@standardandpoors.com

Table Of Contents

SCOPE OF THE CRITERIA

SUMMARY OF CRITERIA UPDATE

Difference Between This Update And The Request For Comment

IMPACT ON OUTSTANDING RATINGS

EFFECTIVE DATE AND TRANSITION

METHODOLOGY AND ASSUMPTIONS

Step 1: Calculation And Classification Of The Asset-Liability Mismatch

Step 2: Program Categorization

Step 3: The Maximum Potential Covered Bond Rating

Table Of Contents (cont.)

Step 4: Cash Flow And Market Value Analysis

Step 5: The Covered Bond Program Rating

Use Of Outlooks

APPENDICES

Sample Calculation Of ALMM Percentage

Discounted Asset Values

RELATED RESEARCH

Criteria | Structured Finance | Covered Bonds:

Revised Methodology And Assumptions For Assessing Asset-Liability Mismatch Risk In Covered Bonds

(Editor's Note: This criteria article amends and supersedes parts of our methodology and assumptions for rating covered bonds in the articles highlighted in paragraph 5.)

1. Standard & Poor's Ratings Services is refining and adapting its methodology and assumptions for assessing covered bond programs. This update follows our request for comment (RFC), titled "Covered Bonds Rating Methodology," published Feb. 4, 2009. We are publishing this article to help market participants better understand our approach to reviewing the adequacy of cover pools to meet bond payments. The revised criteria represent a major change as it links the rating on the covered bonds to the rating on the issuing financial institution when a program has an asset-liability mismatch. The criteria also increase the stresses for sizing the credit enhancement to cover asset-liability mismatches.
2. This article addresses the principles of "credit quality" of the assets and "payment structure and cash flow mechanics" outlined in our criteria article "Principles-Based Rating Methodology For Global Structured Finance Securities," which we published on May 29, 2007.

SCOPE OF THE CRITERIA

3. These criteria cover most covered bond programs globally—in particular, structured covered bonds and legislation-enabled programs. The criteria do not address covered bond programs in emerging markets or programs with unusual or novel structures or assets. In these cases, we may apply these criteria as a starting point for our analysis and will likely make specific modifications according to our evaluation of the programs' characteristics.
4. These criteria also apply to Spanish legislation-enabled covered bonds (known as "cédulas hipotecarias" and "cédulas territoriales"), though we did not include these programs within the scope of the RFC.

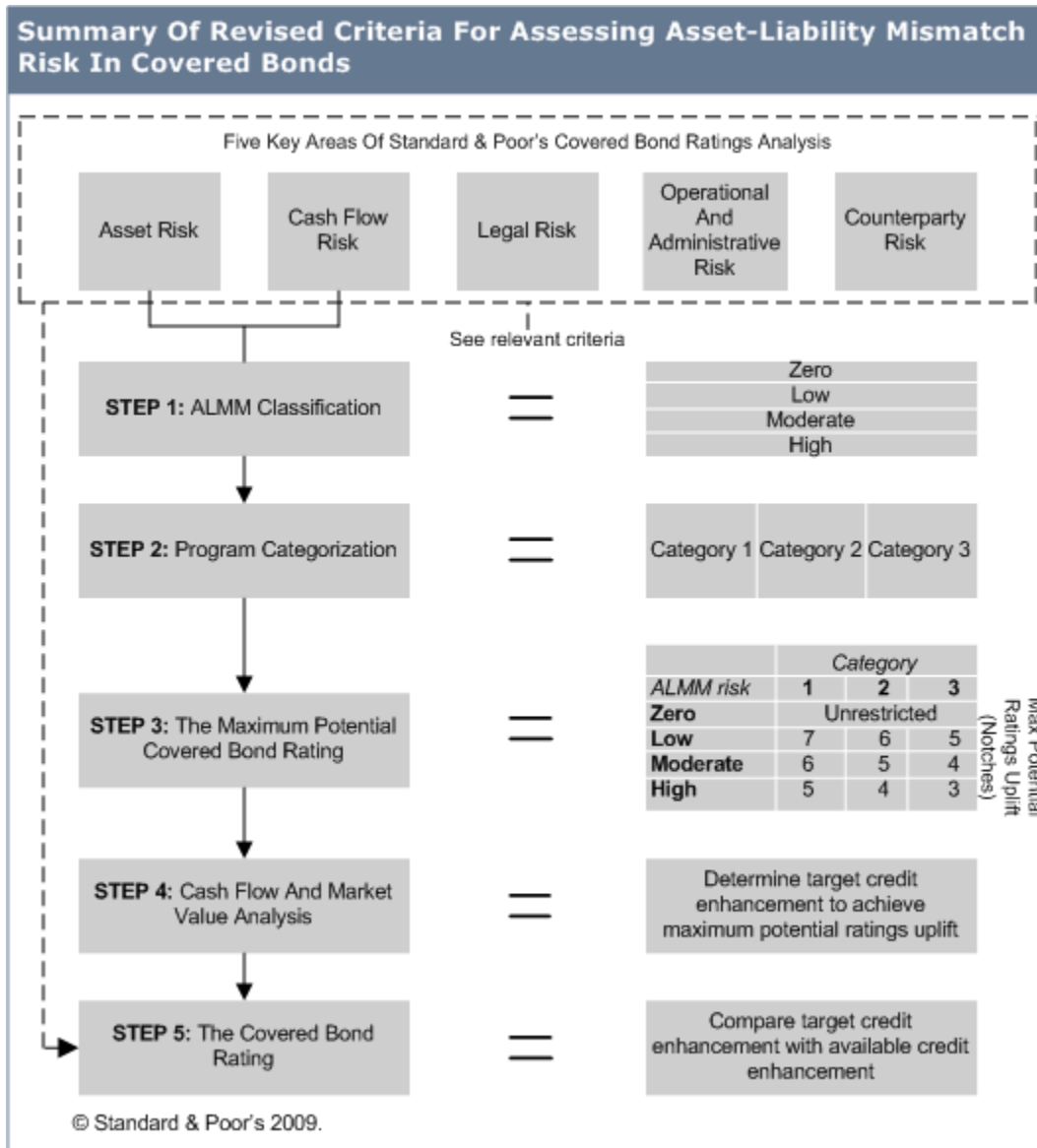
SUMMARY OF CRITERIA UPDATE

5. This update follows our RFC and, more specifically, it amends and supersedes parts of our methodology and assumptions for rating covered bonds in the following articles:
 - Request for Comment: Clarification Of The Issuer Credit Ratings For Covered Bonds, April 29, 2009
 - Request for Comment: Covered Bond Rating Methodology: Clarification Of Liquidity Need Calculation, March 30, 2009
 - Request for Comment: Covered Bonds Rating Methodology, Feb. 4, 2009
 - S&P Ratingansatz Für Covered Bonds und Pfandbriefe, June 8, 2007 (available on www.standardandpoors.com)
 - New Italian Covered Bond Law Allows For Ratings Higher Than Issuing Bank, May 30, 2007
 - Criteria For Rating Swedish Covered Bonds, June 20, 2006
 - Covered Bond Monitor: Technical Note, Feb. 14, 2006

- Rating Methodology For Spanish Covered Bonds Considers Enhanced Post-Insolvency Treatment, April 19, 2005
 - Expanding European Covered Bond Universe Puts Spotlight on Key Analytics, July 16, 2004
 - FI Criteria: German Pfandbrief Framework Further Improved, March 30, 2004
 - Surviving Stress Scenarios: Assessing Asset Quality of Public Sector Covered Bond Collateral, Sept. 23, 2003
 - Revised Criteria For Rating Danish Covered Bonds, July 10, 2003
 - Irish Covered Bonds Eligible For A Delinked Ratings Approach, Feb. 19, 2003
 - Rating Pfandbriefe--The Analytical Perspective, Jan. 27, 2003
 - Criteria for Rating Luxembourg Lettres de Gage Publiques, Nov. 20, 2001
 - Standard & Poor's Develops Criteria for Rating Obligations Foncières, May 5, 2000
 - Criteria For Rating German Pfandbriefe, July 7, 1997
6. In this article, when we use the terms "issuer" or "issuing bank" we are referring to the financial institution behind the covered bond program, even though the issuer of the bonds may technically be a special-purpose entity (SPE), depending on the program structure. Furthermore, we assign ratings to covered bonds, although we may refer to the rating on a program.
7. This criteria article focuses on the analysis of asset risk and cash flow risk, which are two of the five key areas of our ratings analysis. Our methodology for the other components remains unchanged: The legal risks of the structure, operational and administrative risks, and counterparty risks (see "Related Research"). Furthermore, we are not changing our criteria for assessing interest rate swaps and currency swaps, or for unhedged exposures.
8. In this update we refine our methodology and assumptions for assessing the adequacy of a cover pool to meet the covered bond program's debt service. We analyze the potential need for programs to sell or otherwise turn to cash the asset collateral to meet maturing debt obligations, and their flexibility and ability to do so. Furthermore, we assess the market value risk of the cover pool assets and update our assumptions for asset value "haircuts," or reductions. Although this market value risk is secondary in nature due to the initial recourse of the covered bond holders to the issuing bank, it is a key component in our analysis.
9. Under this criteria revision, the rating on the issuing bank, its financing strategies, and the timing and magnitude of asset-liability mismatches now play a more significant role in determining a program's rating and its commensurate level of credit enhancement—typically provided by overcollateralization, i.e., having more assets than bonds. As a result, we are linking the rating on the covered bonds to the rating on the issuer. This approach results in the assignment of 'AAA' ratings to covered bonds of highly rated issuers, provided that we believe the program has sufficient credit enhancement to cover the market value risk, in addition to any other relevant risks.
10. The highlights of our revised methodology and assumptions for assessing asset-liability risk in covered bond programs include the following:
- We link the covered bond rating to the rating on the issuer if we believe a covered bond program has asset-liability mismatches (ALMM) that are not structurally addressed. 'AAA' rated covered bonds may be issued by banks with a minimum rating of 'BBB+', subject to meeting target credit enhancement levels. We use the term "target credit enhancement" throughout this article to indicate the level of credit enhancement that, in our view, is commensurate with the applicable ratings on the covered bonds.
 - Our methodology for determining a covered bond program's rating and target credit enhancement is based on our assessment of a number of factors: The rating on the issuer, its ALMM exposure, its jurisdiction, its range of refinancing options, the available credit enhancement, and the target price at which the assets can be liquidated

under stressful conditions.

- We calculate the ALMM exposure based on our assessment of the maximum cumulative net asset-liability mismatch as a percentage of outstanding liabilities. This ALMM calculation factors in the anticipated timing of the payment shortfall so that mismatches in the future may be reduced in impact. We classify the ALMM percentage into three levels of risk (low, moderate, and high). Ratings on a program with a moderate or low ALMM percentage will benefit from an additional one or two notch rating uplift, respectively (for example, a two notch rating uplift is to 'AA+' from 'AA-').
 - We segment covered bond programs into three distinct categories that consider primarily the jurisdiction of a program and its ability to access external financing or monetize the cover pool. These categories, along with the ALMM percentage, determine a program's maximum potential rating uplift over the rating on the issuer. The potential ratings uplift for Category 1, 2, and 3 programs is seven, six, and five notches, respectively. For each category, we could reduce the maximum ratings by an additional one or two notches, depending on the extent of the ALMM exposure.
 - We model revised market value haircuts based on stressed asset spreads. Throughout this article, we refer to these stressed spreads as "target asset spreads." These target asset spreads differ by asset type, e.g., residential mortgage loans, commercial mortgage loans, and public sector assets. These asset spreads are in part based on peak historical secondary market spreads for asset-backed securities.
 - We calculate target credit enhancement levels to achieve the maximum potential ratings uplift as well as an approach for assigning ratings to a program if the available credit enhancement is lower than the target credit enhancement.
 - We assign outlooks to covered bond ratings in light of the linkage between the rating on the covered bonds and the rating on the issuer.
11. We have devised a five-step process to evaluate the maximum potential ratings uplift for a covered bond program based on the combined assessment of its ALMM exposure and its categorization. For a program that operates with an asset-liability mismatch and provided it meets target credit enhancement levels, the minimum potential rating uplift from the rating on the issuer could be three notches and the maximum potential uplift could be seven notches. We then assign the actual rating based on a comparison of the actual level of credit enhancement versus the target credit enhancement.



Difference Between This Update And The Request For Comment

12. The criteria include several key changes from the RFC. In arriving at these final criteria, we considered feedback from market participants and further developed certain aspects of our analysis.
13. We have refined our approach for assessing the asset-liability mismatch. In particular:
 - We have replaced the concept of "minimal" and "heightened" asset-liability mismatch with a more granular calculation of the mismatch. This means that we have not implemented certain concepts that we highlighted in the RFC, in particular, the calculation of the weighted-average asset maturity gaps, the ALMM limit of 15%, and the guideline that the asset-liability mismatch be covered by liquid assets.
 - We are maintaining a cash flow-based approach to size the asset-liability mismatch and calculate the exposure

amount using information provided by the issuing bank.

- We have modified the calculation of the asset-liability mismatch to take into account the following: A moderate amount of prepayments (for example, a constant prepayment rate of 5% for residential mortgage loans), weighting the mismatch depending on when it arises, and program-specific features such as extendible notes, pre-maturity tests, and available liquidity facilities.
14. The criteria aim to provide greater insight into the segmentation of jurisdictions and create more differentiation among programs. In particular:
- The number of categories remains the same at three. However, we do not use the maximum asset-liability mismatch to categorize programs.
 - The categorization remains predominantly jurisdiction-dependent but also factors in program-specific elements.
15. We are increasing the maximum potential uplift from the issuer credit rating (ICR) on the issuing bank. In particular:
- Compared with the RFC, which proposed a maximum potential uplift of five notches, we have increased the uplift to seven notches so that we can differentiate those programs that have a lower asset-liability mismatch.
 - Therefore, within each jurisdictional category, the degree of uplift may vary among programs by one or two notches depending on whether we assess the ALMM risk as low, moderate, or high.
16. We are refining the stresses for sizing the market value exposure to reflect the asset type. In particular:
- Compared with the RFC, which proposed the use of the maximum secondary market spreads of 'AAA' residential mortgage-backed securities (RMBS), we differentiate further between the various asset types (for example, mortgage assets and public sector assets).
 - We use these spreads to stress the value of the cover pool and to calculate the target and actual credit enhancement levels.

IMPACT ON OUTSTANDING RATINGS

17. Following publication of these criteria, we will review any program that in our opinion has an asset-liability mismatch that is not structurally addressed. We are, however, maintaining our ratings on programs with pass-through structures or programs with committed liquidity facilities. For details of our review see "Ratings On 98 Covered Bond Programs Placed On CreditWatch After Criteria Revision," published Dec. 16, 2009.

EFFECTIVE DATE AND TRANSITION

18. These criteria are effective immediately for all existing and new covered bond programs globally that are backed by traditional cover pool assets, such as prime residential mortgage loans, commercial mortgage loans, and public sector debt. We may treat other asset classes that have different loan characteristics or credit risk differently, but we would follow the principles outlined in this criteria article.

METHODOLOGY AND ASSUMPTIONS

19. A covered bond program typically has mismatches in its asset-liability profile, which have not been addressed by structural features such as pass-through liabilities or committed liquidity arrangements. In a traditional covered bond program, the underlying assets are usually long-dated mortgage assets or public sector assets with maturities greater than 10 years, while the covered bonds that are issued according to investor preferences tend to have short-to medium-term maturities, on average three to seven years. As a result, normal asset amortization alone would be insufficient to pay the bonds on a timely basis and the program relies on the issuing bank's general debt service capacity. However, upon the failure of the issuing bank, the covered bond program, via its trustee, would need to either obtain external financing or liquidate the assets to meet covered bond maturities.
20. The aim of these criteria is to reflect the ALMM risks associated with a bank that issues covered bonds that are rated higher than its own rating by establishing a link between the bank's ICR and the covered bond rating. The rationale for this rating linkage is to express our belief that in a distressed scenario, asset-based financing or asset sales may not happen in a timely manner or at a price that would enable a program to meet its ongoing liabilities without incurring a loss, even if the program were backed by high quality assets or an apparently large amount of collateral.
21. In addition to the ICR, our criteria take into account the nature of the asset-liability mismatch itself. Our cash flow analysis determines the target credit enhancement level commensurate with a program's maximum potential rating. We then assign a final rating based on the actual credit enhancement available.
22. These criteria are expressed as a five-step process. Specifically, we:
 - Calculate our view of a program's asset-liability mismatch exposure and classify this exposure based on its magnitude;
 - Segment covered bond programs predominantly by jurisdiction based on the range of external funding options available and the likelihood of obtaining this funding;
 - Evaluate the maximum degree to which a program's rating may potentially exceed the issuing bank's rating;
 - Size the target credit enhancement level that, in our view, corresponds to the maximum potential ratings uplift; and
 - Assign a rating to a program that reflects the cover pool's actual level of credit enhancement.

Step 1: Calculation And Classification Of The Asset-Liability Mismatch

23. In Step 1, we assess the riskiness of a program's asset-liability mismatch by calculating the ALMM percentage and then classifying it as low, moderate, or high risk. This classification is a key measure for determining the maximum potential rating uplift a covered bond program may have from the issuing bank's ICR. We calculate the ALMM percentage using information the issuer provides to us (see "Appendix: Sample Calculation Of ALMM Percentage"). A change in the ALMM percentage that leads to a change in the risk classification is likely to affect a program's rating.

Asset credit risk

24. In our ALMM calculation, we stress test the cash flows to cover asset credit risk. The starting point is a cover pool's scheduled asset cash flows. We incorporate credit stresses to address risks associated with the cover pool and the

program's structure, for example:

- Asset default risk (e.g., defaults and recoveries per asset type);
- Operational risk (e.g., trustee and servicer expenses); and
- Derivative counterparty risk (e.g., interest and/or currency exposures).

25. The criteria for these risks are not the subject of this article and are listed under "Related Research." For example, for residential mortgage assets, we would calculate the weighted-average foreclosure frequency and loss severity based on criteria for analyzing residential mortgage loans. For public sector assets, we would calculate the pool default rate based on the ratings on the loans, using Standard & Poor's CDO Evaluator model.

Asset-liability features

26. Next, we adjust the cash flows for features that may affect the asset-liability mismatch. In particular, the cash flows reflect the structure of liability payments and any program features that may increase or decrease the asset-liability mismatch. The exact nature of the adjustments may vary per program. Among the relevant features we model are:

- Scheduled asset amortization according to the assets' legal final maturity date;
- A particular level of prepayments, depending on the asset type, originator, jurisdiction, historical prepayment levels, and our expectations;
- Bond interest and principal payments;
- Covered bonds with maturity extension features; and
- Liquidity facilities from appropriately rated and committed sources.

27. For example, if the covered bond has a maturity extension feature, we use the extension date of the covered bonds rather than the legal final maturity date. If a program benefits from a liquidity facility, we reduce the program's asset-liability mismatch accordingly, up to the maximum amount and tenor of the facility.

Timing of mismatch

28. We consider the timing of the mismatch in the asset-liability analysis. In calculating a program's asset-liability mismatch, we differentiate between a mismatch that occurs far in the future from a more immediate need. In our view, following an issuing bank's failure, mismatches that occur in the more distant future should generally be easier for a trustee (or an equivalent party) to manage as there would be less urgency to sell assets or obtain third-party funds to pay the covered bond holders. Therefore, in calculating the ALMM percentage, our methodology treats near-term exposures as being more significant than those occurring in the medium or long term.

29. We apply scaling factors to each net stressed periodic cash flow (see tables 1 and 7). We have derived these factors qualitatively, based on an assessment of the maturity profiles of the programs that we rate and the benefit we wish to apply to those programs that have a greater matching of asset cash flow to liability payments.

Table 1

Scaling Factor Expressed As A Function Of Time	
Timing of ALMM exposure (years)	Scaling factor (%)
0-1	100
1-2	95
2-3	90
3-4	85
4-5	80

Table 1

Scaling Factor Expressed As A Function Of Time (cont.)	
5-6	75
6-7	70
7-8	65
8-9	60
9-10	55
>10	50

Risk classification

- 30. We assign each program an ALMM risk classification: Low, moderate, or high. We calculate the ALMM percentage as the maximum cumulative mismatch, after adjustments and the scaling factor, expressed as a percentage of a program's outstanding liabilities. We use this percentage to classify a program's ALMM risk. This risk classification is one of the key inputs we use to arrive at the maximum possible rating uplift for a program.
- 31. We have derived the cut-off points for each ALMM risk classification from a review of the ALMM percentages for current programs and how they compare with each other (see table 2). In our opinion, programs that are exposed to large funding needs within the next 12 months are typically riskier than those with mismatches throughout the tenor of the covered bonds. As a result, we assign uplift ranges for each ALMM level such that a program with a low ALMM risk has the potential to be rated higher than one with moderate or high ALMM risk. The range of maximum potential ratings uplift spans three to seven notches, i.e., for us to assign a 'AAA' rating to a covered bond, the minimum rating on the issuing bank is 'BBB+'. To determine a program's maximum potential rating within these uplift ranges, the next step categorizes a program by our assessment of its ability to access financing options.

Table 2

ALMM Classifications And Maximum Potential Uplift Ranges		
ALMM risk	ALMM percentage (%)	Maximum potential number of notches uplift
Zero	N/A	Unrestricted
Low	0 <= 15	5 to 7
Moderate	15 <= 30	4 to 6
High	> 30	3 to 5

N/A-Not applicable.

- 32. We can rate a program with no ALMM risk on a de-linked basis from the issuer, i.e., if a program does not have a mismatch of assets to liabilities, its rating is not constrained by the issuer rating. This matching may be the result of structural measures, such as the issuance of pass-through covered bonds, or a contractual commitment by the issuer to maintain levels of credit enhancement such that, in our opinion, asset cash flows are always adequate to pay maturing covered bonds. To the extent other structural mitigants are proposed, we review these accordingly.

Step 2: Program Categorization

- 33. In Step 2, we categorize programs based on our assessment of their ability to obtain third-party liquidity or sell assets to fund any mismatch after the issuing bank fails. We believe the likelihood of a program addressing its asset-liability mismatch is a function of two factors—firstly, the range of options available to the program to source

external funding and, secondly, the likelihood of it being able to access funding via these options. A program that has a greater likelihood of accessing external financing is, in our view, more capable of satisfactorily addressing its asset-liability mismatch. Therefore, we believe such a program should have the potential to exceed its ICR to a greater degree.

Three categories

34. We segment programs into three categories (see table 3). Each category has a range of maximum potential ratings uplift. We assign the highest potential ratings uplift to programs in Category 1 (seven notch uplift), compared with those in Category 2 (six notches) and Category 3 (five notches). Furthermore, depending on the calculation of the ALMM risk, we could decrease this potential uplift by one or two notches for programs with ALMM risk levels classified as moderate or high, as discussed in Step 1.
35. The issuing bank's jurisdiction predominantly drives the program categorization because covered bond programs within a country would typically have access to the same market or government-sponsored funding. However, in some cases, program-specific features may result in different categorization of programs from the same country, or indeed from the same issuer (for example, French "structured covered bond" programs are unable to borrow after the failure of the issuing bank whereas French "obligations foncières" are able to do so).

Analytical factors

36. In categorizing the programs and assessing jurisdictions, we consider the following analytical factors:
 - Range of funding options: What powers does the program have to borrow or sell assets after the issuing bank's failure? Is it allowed to sell assets on an unrestricted basis? Is it allowed to incur debt after the issuing bank's failure either by borrowing from third parties or a central bank?
 - Strength of funding sources: How reliable are a program's external sources of funding? What is the history of the covered bond market and its systemic importance? Who are the interested asset purchasers or lenders in the market? What is the role of the government in supporting a failing issuing bank's program?

Guidelines for each category

37. **Category 1 covered bond programs.** A program is eligible for Category 1 if, in our opinion, the program is from a jurisdiction that meets all the characteristics in the Category 1 column of table 3 and does not have any of the characteristics listed in the Category 3 column. We believe these programs have the greatest likelihood of obtaining external funding and therefore we assign the maximum potential uplift of five to seven notches from the issuer's ICR.
38. **Category 2 covered bond programs.** Category 2 programs are from jurisdictions that, in our opinion, fail to meet in full the characteristics listed in the Category 1 column of table 3 and do not have any of the characteristics listed in the Category 3 column. This category includes the broadest range of jurisdictions. As the covered bond product does not play such a key role in the markets of these countries, in our view, this would lead to a lesser likelihood of market or government-sponsored funding solutions. The maximum potential uplift range is four to six notches.
39. **Category 3 covered bond programs.** We assign a program to Category 3 if we believe it exhibits any one of the features listed in the Category 3 column of table 3. If, in our view, a program meets any one of these characteristics, it is not eligible for the other categories. The maximum potential uplift range for Category 3 programs is three to five notches.

Table 3

Program Categorization			
	Category 1	Category 2	Category 3
Range of funding options	A program has the flexibility to raise funds through BOTH asset sales AND borrowing from either banks or the central bank. There are no restrictions on when or how funds can be raised.	A program is able to raise funds EITHER through asset sales OR borrowing from either banks or the central bank. There are no restrictions on when or how funds can be raised.	A program's access to funding is RESTRICTED so the sale of assets is forced.
Strength of funding sources	The covered bond market has, in our opinion, a long and WELL-ESTABLISHED history. In our view, systemic importance of the product is HIGH. We consider if there is a broad range of banks that are able to lend. We evaluate if there would be an adequate demand among a broad range of investors for the assets backing the program.	The covered bond market has, in our opinion, a LIMITED history. In our view, systemic importance is not as strong as Category 1. We consider if there is a broad range of banks that are able to lend. We evaluate if there would be an adequate demand among a broad range of investors for the assets backing the program.	The covered bond product is NEWLY ESTABLISHED in that jurisdiction. In our view, systemic importance is LOW. We consider if banks are unable to lend to programs. We evaluate if there is uncertain demand among a broad range of investors for the assets backing the program.
Jurisdictions	Denmark France ("obligations foncières") Germany Spain	France ("structured covered bonds")	Canada Finland Greece U.S. Ireland Italy Luxembourg The Netherlands Norway Portugal Sweden U.K.
Maximum potential number of notches uplift from the ICR	5 to 7	4 to 6	3 to 5

Range of funding options

40. The greater the range of funding options available to the program, in general the more flexibility a program has to access external funding. Programs typically have up to three possible options:
41. **Repo transactions with the European Central Bank or a national central bank.** To consider repo transactions as a source of funding, we analyze a program to determine if it meets a number of factors:
 - Firstly, we analyze the relevant covered bond legislation or program documentation to understand if the program or trustee is able to raise debt after the issuing bank's failure.
 - Secondly, we seek to understand if the relevant central bank would recognize the cover pool (or trustee) as an eligible counterparty for repo funding.
 - Thirdly, we assess if the cover pool assets are eligible under the relevant central bank framework.
42. **Third-party loan facility.** For this option to be available to a program, the trustee should be able to raise debt after the issuing bank's failure. We would expect this further debt to rank at least pari passu with the existing covered bonds as we believe it unlikely that the trustee would be able to find a lender willing to lend on a subordinated basis. The option to raise third party funding is typically detailed in the relevant covered bond legislation or may be incorporated in the documents of a structured covered bond program.

43. **Ability to sell assets.** After the issuing bank's failure, in the absence of any other funding options, a program would sell assets to pay maturing bonds. We view as a negative rating factor any requirement for the forced sale of the cover pool assets within a short time period. For example, in the U.S. a covered bond program may be required by the FDIC acting in its capacity as either conservator or receiver to sell its underlying collateral within a short time period after the issuing bank's failure.

Differentiating the strength of the funding sources

44. We consider that the systemic importance of covered bonds in a market determines how likely the program is to access funding through its funding options, and in particular how governments and regulators are likely to respond to support financial stability.
45. We believe that governments would generally be motivated to act when the cost of a failed covered bond program on the economy and financial system is perceived to be greater than the cost of providing support. When financial stability is threatened, we are of the opinion that governments are likely to do whatever they can to protect their economy. Various options are available. The more likely outcome would usually be a market solution, whereby either other banks would lend or investors would buy a portion of the assets in the program to cover any asset-liability mismatch. Governments can often encourage investors or banks to support weak institutions or programs.
46. Generally, we evaluate if there is a broad range of banks that are able to lend and if there is adequate demand among a broad range of investors for the assets backing the program (such as the presence of a securitization market, an active covered bond market, active loan sales market, as well as instances of portfolio sales in distressed circumstances). Where there is uncertainty about the capacity of banks to lend, or investor demand, those jurisdictions would fall under Category 3.
47. If a market solution isn't possible, the government may choose to provide additional liquidity via its central bank or otherwise. These actions may require changes in legislation, which we believe governments would likely consider if the covered bonds are systemically important.

We view the systemic importance of covered bond programs as high when there is a combination of four features, namely:

- The absolute size of the covered bond market, as evidenced by total amount of covered bonds outstanding in a jurisdiction being greater than €100 billion;
 - The relative size of the covered bond market, as evidenced by covered bond funding as a percentage of bank capital markets funding being greater than 20% over many years;
 - That covered bonds are integral in the provision of housing finance, as evidenced by mortgage-backed covered bonds as a percentage of GDP being greater than 20% over many years; and
 - That covered bond-style financing has been a long-term feature of the funding market (typically 50 years or more) and which has operated with no history of covered bond defaults.
48. It is our view that in these circumstances it is highly likely that the government will act to support a program to protect financial stability.

We view the systemic importance of covered bond programs as low where there is a combination of the four features, namely:

- The absolute size of the covered bond market, as evidenced by total amount of covered bonds outstanding in a

jurisdiction being less than €5 billion;

- The relative size of the covered bond market, as evidenced by covered bond funding as a percentage of bank capital markets funding being less than 5%;
- That covered bonds are not integral in the provision of housing finance, as evidenced by mortgage-backed covered bonds as a percentage of GDP being less than 5%; and
- That covered bonds are a new funding feature in the market, with little or no observable track record of the structures surviving financial crises.

49. It is our view that in these circumstances it is not likely that the government will act to support a program to protect financial stability.

Role of covered bond legislation

50. Changes in covered bond legislations may affect our rating analysis and in particular our program categorizations. As covered bond markets develop globally there is generally a trend for governments to introduce specific covered bond legislation. This legislation governs many aspects of covered bond issuance, ranging from the types of institutions that can issue covered bonds, the characteristics of the cover pool assets, the amount of covered bonds that can be issued, the segregation of the assets upon the failure of the issuing bank, hedging arrangements, and the supervision of the program both before and after a failure of the issuing bank.
51. When analyzing a covered bond jurisdiction, certain aspects are particularly relevant to the asset-liability assessment, namely:
- Whether there is any acceleration of payments to noteholders on a failure of the issuing bank—whether payments of interest and principal will continue in accordance with the original terms of the covered bonds;
 - Whether there is any payment moratorium or forced restructuring;
 - Whether there are any limits to overcollateralization levels, i.e., if a program may overcollateralize its covered bonds above the minimum limit defined under the legislation, and whether this additional overcollateralization is available to the covered bond holders notwithstanding the failure of the issuing bank;
 - The treatment of any hedging agreements on the failure of the issuing bank;
 - Whether the program can access funding after the failure of the issuing bank; and
 - The management of the cover pool both pre- and post-failure of the issuing bank.
52. We do not rank jurisdictions by their legislation but assess whether the legislation addresses the above issues. We recognize that governments can and do take steps to amend legislation, often to provide further protection to bondholders. Developments that, for example, provide a greater range of funding options to covered bond programs of failed issuing banks are generally positive from a credit rating perspective. Our surveillance process generally monitors covered bond legislations and the categories in which we have assigned jurisdictions.

Step 3: The Maximum Potential Covered Bond Rating

53. In Step 3, we determine the maximum potential rating on a covered bond program by combining our assessment of its ALMM exposure and its ability to cover this need. In particular, we bring together the classification of the ALMM risk (Step 1) and the categorization of each program (Step 2) in a simple, transparent matrix (see table 4). We calculate the maximum potential rating on a covered bond program as the bank's ICR increased by the appropriate number of rating notches. This potential uplift assumes that a cover pool has the target credit

enhancement to address its market value exposure, according to our stress assumptions.

54. There are 12 possible combinations of ratings uplift:

- A program that has no ALMM risk is not linked to the rating on the issuing bank. In this case, the program's categorization does not restrict the uplift (up to 'AAA').
- Programs with the same ALMM risk can have different maximum potential uplift depending on their program categorization.
- Equally, programs in the same category can have different maximum potential uplift depending on their ALMM risk.

Table 4

Maximum Potential Ratings Uplift From The Issuer's ICR			
By number of notches			
ALMM risk	Category		
	1	2	3
Zero	Unrestricted	Unrestricted	Unrestricted
Low	7	6	5
Moderate	6	5	4
High	5	4	3

Issuer credit rating

55. We notch the rating on a covered bond program above the rating on the issuer. Covered bonds may be either issued directly by a bank or via an SPE. In the case of direct issuance by a bank, we would expect the bank to have either a public or confidential rating from Standard & Poor's. For programs using an SPE, we apply the criteria of our "Group Methodology" for financial services companies, published April 22, 2009, or other applicable criteria to determine the relevant ICR on which to base the notching.

Target credit enhancement

56. Table 4 sets out the maximum potential ratings uplift for programs that have credit enhancement levels that reflect our revised stresses for market value risk (see Step 4). We assign the maximum potential rating to a program if its credit enhancement is commensurate with the target credit enhancement level for that rating (see Step 5). We next outline the market values stresses we apply when calculating the target credit enhancement. Depending on the amount of credit enhancement available, a program's rating may be lower than the maximum potential rating.

Step 4: Cash Flow And Market Value Analysis

57. In Step 4, we analyze cash flows to determine the periodic asset-liability mismatches of a program and then apply market value stresses to the collateral pool. If a program can liquidate enough assets to meet such mismatches, while leaving sufficient collateral to service the remaining debt, it can achieve its maximum potential rating. The modeling of the cash flows also takes into account credit and other structural risks of the assets and program structure (e.g., asset defaults).

58. Irrespective of the funding options, we seek to model the market value risk consistently across programs.

Target asset spreads

59. We model market value risk in terms of a "spread shock." We calculate the net present value of the projected cash flows of the assets using a discount rate, which we base on the target asset spreads in tables 5 and 6 over the relevant funding rate, e.g., EURIBOR. We derive these target asset spreads based, in part, from the widest observed spread for securitizations or issuances of similar assets. To the extent that applicable market spreads exceed the data on which we base our assumptions, we may adjust and publish revised assumptions accordingly. The application of the target asset spreads results in a reduced asset value, which we use as an input in our cash flow analysis to calculate the likely proceeds the issuer would receive if it borrows from a third party or sells assets. From the cash flow modeling outputs, we determine the target level of credit enhancement to cover such asset value declines, among other risks.

Asset spread buckets

60. We group the cover pool assets and jurisdictions into "buckets" and assign a target asset spread for each bucket. Where cover pools contain assets from more than one bucket, we calculate a weighted-average target asset spread weighted by the outstanding balance of each asset bucket. Tables 5 and 6 provide the buckets and target asset spreads for residential mortgage loans, commercial mortgage loans, and public sector assets. As the range of jurisdictions and types of cover pool assets expand, we will update these tables with new jurisdictions, asset buckets, or target asset spreads.
61. *Residential and commercial mortgage target asset spreads.* We derive target asset spreads for cover pools of prime residential and commercial mortgage loans from RMBS and CMBS secondary market spreads since these are the most visible proxy for residential or commercial loan sales. Our spread assumptions come from a number of external sources combined with our own analytical opinion on the suitability and relevance of this data. We have segregated residential and commercial mortgage loan assets into three buckets (see table 5). We make adjustments if asset characteristics differ, for example, these spreads don't apply to European nonconforming loans.
62. These target asset spreads can also be expressed as discounted asset values. In "Appendix: Discounted Asset Values," we provide these for a select sample of spreads and asset tenors.

Table 5

Target Asset Spread Widening By Asset Type And Jurisdiction	
Asset buckets	Spread (basis points)
Bucket 1 – Prime residential mortgage loans	425
Canada	
Denmark	
Finland	
France	
Germany	
Italy	
The Netherlands	
Norway	
Sweden	
U.K.	
Bucket 2 – Prime residential mortgage loans	700
Greece	
Ireland	

Table 5

Target Asset Spread Widening By Asset Type And Jurisdiction (cont.)	
Portugal	
Spain	
Bucket 3 – Commercial mortgage loans	1,000

63. For cover pools of European residential mortgage loans, we grouped together jurisdictions that exhibited similar historical pricing behavior or those financial markets that operate as a larger system. The target asset spread for each bucket is at least as high as the maximum secondary market spread for 'AAA' rated RMBS and CMBS observed since 2007 in most of the component jurisdictions. To the extent that characteristics of the cover pool assets differ from "prime" mortgage loans, we use these spreads as a starting point and adjust accordingly.
64. For cover pools of prime U.S. mortgage loans, we model market value risk by haircutting the asset price. We apply a 50% reduction to the loan's price.
65. For cover pools of European commercial real estate loans, we do not differentiate by jurisdiction. These cover pools tend to be composed of assets from multiple jurisdictions so we have derived the target asset spread based on a review of pan-European CMBS spread data.
66. In deriving the above target asset spreads, we reviewed historical data from the securitization markets of the jurisdictions involved. We believe the spread data observed from mid-2007 is the appropriate basis to derive the target asset spreads as this period represents the worst observed spread shock since the development of the securitization markets. In our view, while these target asset spreads do not represent 'AAA' stresses on a standalone basis, we consider them to be the appropriate stress to model market value risk in covered bond programs since market value risk arises after the issuing bank is unable to fund.
67. *Public sector target asset spreads.* We model target asset spreads for cover pools of public sector assets using European sovereign spread data. We considered both European sovereign and agency markets, as well as the European government-guaranteed bank debt markets as proxies. We segment sovereign assets into three buckets, based on the rating on the sovereign (see table 6). For non-sovereign public sector assets, we increase the target asset spreads by 50 bps. For sovereign assets with ratings below 'BBB', we determine target asset spreads on a case-by-case basis.

Table 6

Target Asset Spread Widening For Sovereign Assets		
Sovereign buckets	Sovereign rating	Spread (basis points)
Bucket 1	AAA	100
Bucket 2	AA	200
Bucket 3	A, BBB	300

Step 5: The Covered Bond Program Rating

68. In Step 5, we assign the rating to the covered bond program by assessing whether the available credit enhancement in a program is equal to the target credit enhancement for the maximum potential rating given in Step 3. If the available enhancement is as high as the target enhancement, we would assign to the program the maximum potential rating. However, if the available credit enhancement is below the target amount, the rating will be lower than the

maximum potential rating.

Target versus actual credit enhancement

69. To calculate the target credit enhancement, we stress the cash flows for:
- Asset default risk (e.g., defaults and recoveries per asset type);
 - Operational risk (e.g., trustee and servicer expenses);
 - Derivative counterparty risk (e.g., interest and/or currency exposures);
 - ALMM risk (e.g., target asset spreads); and
 - Any other relevant risks that may affect the cash flows.
70. For sizing the asset default risk, we apply 'AAA' stress scenarios for programs that have an ALMM risk, irrespective of the rating on the covered bonds. This is consistent with our approach for analyzing spread data for 'AAA' rated RMBS and CMBS. For the market value analysis, we believe the target asset spread assumptions do not represent 'AAA' assumptions but rather our views based on worst-case historical data and future expectations. We believe this is an appropriate assumption as market value risk is first addressed by the issuer, to the extent it is able to fund.

Structural considerations when determining the target credit enhancement

71. When determining the target credit enhancement, we also take into account structural aspects of a program. For example, we understand that many structured covered bond programs, as well as bonds issued under some covered bond legislations, incorporate a feature that allocates the program's credit enhancement to each of the covered bond issues on a pro-rata basis. In some programs this is referred to as the selected assets required amount (SARA) clause. In programs with this feature, the credit enhancement determined when the issuer first sells the assets to address a program's asset-liability mismatch sets the level of credit enhancement for the program as a whole.
72. For example, assume there are two bonds outstanding of €50 million each—one maturing in year 1 and one maturing in year 10. We size credit enhancement for the first bond at €10 million and €5 million for the second bond. Therefore, €115 million of assets would support €100 million of liabilities, giving a credit enhancement of €15 million. However, due to the SARA clause, the maximum amount of assets that may be allocated to the first maturing covered bond would only be €57.5 million, based on its proportional share in the total enhancement. As a result, total credit enhancement of €20 million is necessary so that the first maturing bond has access to €10 million. Generally, we expect that a covered bond program with a SARA clause will typically have a higher level of credit enhancement compared with a program without this feature.

Notching uplift

73. The rating on the issuer is the floor to the covered bond rating. To determine the degree to which a covered bond rating may exceed the ICR, we assign the first notch of uplift if the available credit enhancement covers all credit risks related to the default of the cover pool assets. For any further elevation to the maximum potential rating, the remaining credit enhancement should be able to cover the market value risk arising from ongoing asset-liability mismatch. Consequently, we assign additional notches of uplift based on how much credit enhancement is needed to cover the market value exposure and the amount actually provided. If ongoing asset-liability mismatches can be fully covered, we assign the maximum potential rating according to the ALMM classification and the program category (see Step 3). If the remaining credit enhancement doesn't completely cover the ALMM risk, we compare the remaining credit enhancement to the additional notches of potential ratings uplift to determine the uplift achievable. We provide an example in the following Exhibit.

Example Of Achievable Uplift If Remaining Credit Enhancement Does Not Completely Cover The ALMM Risk

Covered bond program categorization	Category 2
ALMM risk classification	Moderate
Maximum potential uplift (notches)	5
ICR	AA-
Maximum potential program rating	AAA
Assigned rating	AA+
Covered bonds outstanding (€ Mil.)	100
Credit risk as per asset analysis (€ Mil.)	5
ALMM risk as per Step 4 (€ Mil.)	25
Total cover pool assets to achieve 'AAA' program rating (€ Mil.)	130
Actual amount of cover pool assets (€ Mil.)	120

(i) Calculate the maximum potential uplift that is possible.

Take the lower of (a) the number of notches uplift to the maximum potential rating and (b) the actual number of notches between the ICR and that highest rating.

In this example, five notches is the maximum potential uplift, compared with three notches for the gap between the ICR and maximum potential rating of 'AAA'.

(ii) Calculate the additional uplift attributed to full coverage of the asset-liability mismatch.

If credit enhancement is greater than the asset default risk, we assign one notch of uplift. To calculate any further uplift, we then reduce the maximum potential uplift by one notch.

In this example, the additional uplift is two notches.

(iii) Calculate the difference between the target credit enhancement and the credit enhancement to cover credit risks.

In this example, the differential is €25 million.

(iv) Determine the credit enhancement for the additional uplift.

Divide the credit enhancement differential by the number of additional notches of uplift to determine the amount of credit enhancement that corresponds to each notch.

In this example $€25 \text{ million} / 2 = €12.5 \text{ million}$. Therefore, each increment of €12.5 million of credit enhancement will equate to an extra notch for the covered bond rating. This compares with the additional credit enhancement of €15 million (i.e., €120 million-€105 million).

We assign a 'AA+' rating to the covered bond. This consists of two notches above the ICR: One notch for covering credit risk and an additional one notch for covering the first €12.5 million increment of credit enhancement to address the ALMM.

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Use Of Outlooks

74. With the publication of these updated criteria, we now assign outlooks to all covered bond ratings. We categorize outlooks as "stable," "positive," "negative," or "developing." Outlooks provide our view of an issue's potential for a rating change and its direction over the intermediate term (see "General Criteria: Use Of Credit Watch And Outlooks", published Sept. 14, 2009).

75. Since we already assign outlooks to financial institution ratings, we believe their application to covered bond ratings provides meaningful information, particularly in light of the linkage between the rating on the covered bond and the rating on the issuing bank. The outlook we assign to the covered bond is closely aligned to that on the issuer. However, the outlook may not always be the same and may not move in tandem with changes to the issuing bank's outlook. The ratings outlook also takes into account potential rating changes due to the performance of the collateral as well as the asset-liability mismatch analysis of a covered bond program.

APPENDICES

Sample Calculation Of ALMM Percentage

76. We provide a simplified calculation of the ALMM percentage. To focus on the features related to the asset-liability mismatch, this example does not model, among other aspects, asset defaults and program expenses.

Table 7

Calculation Of ALMM Percentage								
Year	Performing asset balance (€ Mil.)	Liability balance (€ Mil.)	Stressed periodic asset cash inflows (€ Mil.)	Stressed periodic liability cash outflows (€ Mil.)	Net stressed periodic cash flows (€ Mil.)	Scaling factor (%)	Scaled net stressed periodic cash flow (€ Mil.)	Cumulative scaled net stressed cash position (€ Mil.)
	A	B	C	D	E = C - D	F	G = E * F	H = Cumulative of G
Outstanding balance	120.00	100.00	-	-	-	-	-	-
1	114.00	90.00	6.00	10.00	(4.00)	100	(4.00)	(4.00)
2	108.30	70.00	5.70	20.00	(14.30)	95	(13.59)	(17.59)
3	102.89	40.00	5.42	30.00	(24.59)	90	(22.13)	(39.71)
4	97.74	20.00	5.14	20.00	(14.86)	85	(12.63)	(52.34)
5	92.85	20.00	4.89	0.00	4.89	80	3.91	(48.43)
6	88.21	20.00	4.64	0.00	4.64	75	3.48	(44.95)
7	83.80	20.00	4.41	0.00	4.41	70	3.09	(41.86)
8	79.61	20.00	4.19	0.00	4.19	65	2.72	(39.14)
9	75.63	20.00	3.98	0.00	3.98	60	2.39	(36.75)
10	71.85	0.00	3.78	20.00	(16.22)	55	(8.92)	(45.67)
								Maximum ALMM (€ Mil.)
								(52.34)
								ALMM percentage = maximum ALMM / outstanding liability balance (%)
								(52.34)

77. **Column A—Performing asset balance.** This is based on the amortization of the asset balance due to repayments and prepayments. In cash flow runs for rating purposes, we also apply asset default stress assumptions. In this example, we assume a constant prepayment rate of 5% and zero level of defaults.
78. **Column B—Liability balance.** This is based on the repayment profile of the outstanding covered bonds.
79. **Column C—Stressed periodic asset cash inflows.** In cash flow runs for rating purposes, this amount also includes interest and principal receipts, reinvestment income, and recoveries received in that period, following the application of any credit, interest rate, and currency stresses. In this example, we assume no asset stresses, no interest receipts,

and no reinvestment income such that inflows represent principal receipts only.

Column C = performing asset balance $t_{(i)}$ – performing asset balance $t_{(i-1)}$

80. **Column D—Stressed periodic liability cash outflows.** This is the amount the issuer needs to pay interest and repay maturing covered bonds in that period. In cash flow runs for rating purposes, this also includes both interest and principal payments. In this example, we assume no interest payments and we model only principal repayments on the covered bonds.

Column D = liability balance $t_{(i)}$ – liability balance $t_{(i-1)}$

81. **Column E—Net stressed periodic cash flows.** This is the net cash flow balance after deducting outflows from inflows.
82. **Column F—Scaling factor.** This is a percentage figure that we use to reduce the size of cash flow mismatches in the future.
83. **Column G—Scaled net stressed periodic cash flows.** This is the cash flow balance reduced by the scaling factor.
84. **Column H—Cumulative scaled net stressed cash position.** This is the cumulative position of the cash flows mismatches in Column G. A negative number shows a mismatch of the asset-liability cash flows.
85. **Maximum ALMM.** This is the highest negative number observed in Column H.
86. **ALMM percentage.** This is the maximum ALMM expressed as a percentage of the outstanding liability balance at the time the cash flows are run.

Discounted Asset Values

Table 8

Conversion Of Target Asset Spreads Into Discounted Asset Values By Tenor		
Spread (basis points)	Weighted-average life of asset (years)	Approximate discounted asset value (%)
425	10	65
425	8	68
425	5	73
425	3	77
425	1	82

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- Ratings On 98 Covered Bond Programs Placed On CreditWatch After Criteria Revision, Dec. 16, 2009
- Use Of CreditWatch And Outlooks, Sept. 14, 2009
- Understanding Standard & Poor's Rating Definitions, June 3, 2009
- Request for Comment: Clarification Of The Issuer Credit Ratings For Covered Bonds, April 29, 2009
- "Group Methodology" for financial services companies, published April 22, 2009
- Request for Comment: Covered Bond Rating Methodology: Clarification Of Liquidity Need Calculation, March

30, 2009

- Request for Comment: Covered Bonds Rating Methodology, Feb. 4, 2009
- Standard & Poor's to Explicitly Recognize Credit Stability As A Rating Factor, Oct. 15, 2008
- S&P Ratingansatz Für Covered Bonds und Pfandbriefe, June 8, 2007 (available on www.standardandpoors.com)
- New Italian Covered Bond Law Allows For Ratings Higher Than Issuing Bank, May 30, 2007
- Principles-Based Rating Methodology For Global Structured Finance Securities, May 29, 2007
- Criteria For Rating Swedish Covered Bonds, June 20, 2006
- Weighing Country Risk In Our Criteria For Asset-Backed Securities, April 11, 2006
- Covered Bond Monitor: Technical Note, Feb. 14, 2006
- Rating Methodology For Spanish Covered Bonds Considers Enhanced Post-Insolvency Treatment, April 19, 2005
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- Rating Pfandbriefe--The Analytical Perspective, Jan. 27, 2003
- Criteria for Rating Luxembourg Lettres de Gage Publiques, Nov. 20, 2001
- Standard & Poor's Develops Criteria for Rating Obligations Foncières, May 5, 2000
- Criteria For Rating German Pfandbriefe, July 7, 1997

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