Article Title: ARCHIVE | Criteria | Structured Finance | CDOs: CDO Spotlight: Rating Approach To Synthetic CDOs Of Sovereigns Or Local And Regional Governments Data: (EDITOR'S NOTE: — This criteria article is no longer current. It has been superseded by the articles titled, "CDOs And Pooled TOBs Backed By U.S. Municipal Debt," published on March 19, 2012, and "Default And Correlation Parameters For Sovereign Debt Assets In CDOs," published on March 13, 2012. This criteria article supersedes the article titled "CDOs: Global Cash Flow And Synthetic CDO Criteria: Emerging Markets/Multi-Jurisdictional CDOs," published on March 21, 2002.) In January 2006, PSION Synthetic CDO I PLC issued the first international public sector synthetic CDO notes rated by Standard & Poor's Ratings Services, for which the reference portfolio included sovereigns and international local and regional governments (LRGs). At the same time, investors have focused attention on our methodology for assessing pools of assets exposed to such governments. We already have extensive experience of rating covered bonds that use sovereign or LRG collateral, and many of our assumptions for CDO transactions referencing similar assets make use of inputs originally developed for the covered bond market, albeit modified to take account of the differences between the two issue types. By way of background, we provide a brief overview of the relevant aspects of general CDO rating methodology, and a more detailed examination of the asset quality analysis for transactions where the reference portfolio consists of sovereigns and international LRGs. Overview Of CDO Ratings Methodology To rate CDO transactions referencing sovereigns or LRGs, we apply methodology mirroring that for a synthetic CDO of corporates, using our CDO Evaluator approach. (For a more detailed introduction into the CDO Evaluator, see the commentary article "CDO Evaluator Applies Correlation and Monte Carlo Simulation to Determine Portfolio Quality," published on RatingsDirect, Standard & Poor's Web-based credit analysis system, on Nov. 13, 2001.) The necessary data inputs include, in particular: The public credit rating or confidential credit estimate for the underlying assets in the reference portfolio; The default correlation between assets; and The assumptions for post-default recovery rates on the individual assets in the portfolio. In addition, the ratings process involves: Determining what (if any) interest rate or credit risk must be assessed on the assets and liabilities of the transaction; Reviewing the relevant swap documentation; Reviewing the suitability of the contra-liability account from which credit protection payments are to be drawn upon a credit event; Assessing the asset manager/servicer and management procedures, investment/underwriting guidelines, and operational aspects of the transaction; Examining the credit quality of the CDS protection buyer and other sources of bivariate risk; and Evaluating legal risk through an examination of the transaction documents and legal opinions. Credit Ratings And Default Rates For Sovereign And LRG Issuers As far as possible, we use published Standard & Poor's credit ratings on sovereigns and LRGs as the inputs for CDO Evaluator. Furthermore, if an asset in the reference portfolio has a sovereign or LRG guarantee that fulfills our criteria for the purpose, then the rating on the guarantor is used. For assets on which we have published no rating to date, we conduct our own credit assessment as part of the CDO ratings process. For large and very granular portfolios with unrated assets, we may use statistical approaches to assess the input into CDO Evaluator. CDO Evaluator operates through matrices that associate a given default probability to a given asset, based on its credit rating and its maturity. For sovereign and LRG exposure, we use the corporate default matrix in the CDO Evaluator. In fact, Standard & Poor's research shows that sovereign and LRG default and transition behavior is akin to that of corporate issuers (see for example "2005 Transition Data For Rated Sovereigns," "2005 Default And Transition Study For International Local And Regional Governments," and "Sovereign Defaults Set to Fall Again in 2005," published on RatingsDirect on Feb. 2, 2006, Feb. 1, 2006, and Sept. 28, 2004, respectively. CDO Evaluator also contains a default matrix specifically for U.S. municipal entities (see the commentary article "Public Finance Criteria: Rating Approach to Synthetic CDO Transactions Referencing U.S. Municipal Credits," published on RatingsDirect on Nov. 14, 2004). The corporate default matrix used for sovereign and international LRGs tends to have higher default rates than the U.S. municipal default matrix, in particular in the speculative grade area and for long maturities, while the U.S. municipal default matrix is broadly in line with the corporate matrix for debt that is more highly rated and carries medium-term maturities. This is broadly supported by our empirical data, which shows that sovereign default rates have been greater than those of U.S. municipal entities for all rating categories at 'BBB' and below (see chart 1). For international LRGs, default rates have been greater than for U.S. municipalities in the 'BB' category, but smaller in lower speculative-grade categories. Chart 1 Default Correlations Between Assets In A CDO Transaction Another important input parameter for CDO Evaluator is the correlation of defaults among assets referenced in a given transaction. For non-U.S. LRGs, we consider that correlation applies primarily among national and regional governments in the same country, owing to joint macroeconomic exposure and to often strong institutional links between different government issuers within one country. That said, LRGs usually depend more on the sovereign than the inverse. At present, for most industrialized countries, the intra-country sub-sovereign correlation assumption for government assets in a CDO transaction falls within a bucket of 0.1 to 0.3, although there could be a few exceptional cases. To assess the scale of the correlation among government issuers within a country, we use a mix of quantitative and qualitative analysis. On the quantitative side, analysis of default correlations among regional and local governments within a particular country--specifically in industrialized countries--is hampered by the absence of a statistically significant number of data points. Consequently, as an alternative, we examine the parallels between several budgetary parameters for government entities in each country, although we acknowledge that this cannot be more than a rough approximation of default correlation. On the qualitative side, key factors include: The level of fiscal centralization and the exposure of LRGs to central government finances; The degree of tax sharing and equalization of revenues and expenditures; The flexibility of LRG issuers to offset on an individual basis any revenue or expenditure shocks; and More generally, the extent to which the revenues and expenditures of all LRGs in a given country are jointly affected by cyclical factors for the national economy as a whole. These correlation factors can sometimes point in different directions within the same country. For example, in Germany, the fiscal system is relatively devolved to the regional level, but we actually assume the correlation between government issuers to be high. This is due to the strong revenue and expenditure equalization system in place among German governments, and to the widespread sharing of taxes that are exposed to economic cycles (for example, income taxes). Conversely, in France, the government financing system is more centralized, but we estimate correlations to be lower, because the equalization processes are weaker, and because French municipalities have control over revenue sources that are more resilient to economic cycles (such as real estate taxes). Correlation assumptions are further stressed where a CDO transaction referencing LRG assets in one country is rated above the sovereign, reflecting the widespread LRG defaults that have occurred in many instances of severe sovereign stress. Although in most cases the sovereign rating acts as a cap on individual LRG ratings in that country, we consider that, under certain conditions, the ratings on the notes in a CDO transaction referencing several LRGs in one country could exceed the relevant sovereign rating. These conditions would include the level of diversification and the default timing patterns of the LRGs referenced in the transaction, in combination with sufficiently robust credit enhancement. Recovery Assumptions For Sovereign And LRG Collateral Recovery assumptions for defaulted collateral vary by country and by type of issuer. For sovereign exposure, we currently assume a 25% recovery. We expect to refine this assumption in the future, however. For LRGs, Standard & Poor's recovery assumptions often tend to be higher than for sovereigns. This is most common where the sovereign seems likely to intervene and provide financial support in the event of an LRG default. In this regard, for most Western European countries, the recovery assumptions for LRGs in synthetic CDO transactions are higher than 75%, in line with the assumptions used for U.S. Municipal Credits. For Central and Eastern European countries, where the systemic and institutional framework tends to be less robust, recovery assumptions for LRGs are consequently lower. Finally, for LRGs elsewhere in global emerging markets, we assign the lowest recovery assumptions, although these are usually at least as high as for the corresponding sovereign. Within these general parameters, the specific factors for assessing LRG recovery potential include, in particular: The track record in terms of the timing and level of recovery experienced in the event of default of an LRG in each country; The credit culture of LRGs, including evidence for their willingness to facilitate recovery post-default and their need for access to capital markets; The legal system in the country, for example, the laws governing an LRG restructuring, and the general attitude toward enforcement of contracts; LRG access to funding, such as the nature of relationships with banks and capital markets; The supportiveness of the system of intergovernmental relations, for example, whether a high level of transfers and equalization payments signal that the central government considers itself to be morally or legally responsible for the financial position of LRGs in that country; Legal guarantees that would require the central government to bail out a local government in case of default; and Empirical evidence of central government willingness to bail out LRGs. Refinements To The Process Beyond this overview of the current Standard & Poor's approach to analyzing CDOs that reference sovereign and international public finance exposure, two important points should be borne in mind when examining individual CDO transactions of this type. First, the importance accorded to each category of assumptions can be adjusted to reflect the specific details of an individual CDO transaction. For example, if the notes in a CDO referencing a pool of government assets highly concentrated in one country are rated above the corresponding sovereign, correlation assumptions for government issuers in that country would be increased in the ratings process. Second, our methodology in this area is evolving, both to enhance rating techniques, and to keep pace with developments in the market. We publish at least annually updated default and transition studies for sovereign and international LRG ratings, and we will continue to keep the market informed of changes to the underlying methodologies covered in this article. Previously Published Related Articles* ARTICLE TITLE PUBLICATION DATE 2005 Transition Data For Rated Sovereigns Feb. 2, 2006 2005 Default And Transition Study For International Local And Regional Governments Feb. 1, 2006 New Issue: PSION Synthetic CDO I PLC Jan. 31, 2006 Public Finance Criteria: Rating Approach to Synthetic CDO Transactions Referencing U.S. Municipal Credits Nov. 14, 2004 Sovereign Defaults Set to Fall Again in 2005 Sept. 28, 2004 CDO Evaluator Applies Correlation and Monte Carlo Simulation to Determine Portfolio Quality Nov. 13, 2001 *Articles are available to subscribers of RatingsDirect, Standard & Poor's Web-based credit analysis system, at www.ratingsdirect.com.