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Global Fixed Income Research

U.S. Credit Spreads Composite Overview and Methodology

Overview

Standard & Poor's Credit Composites reflect daily movements in credit spread levels within various bond market sectors. Credit spreads are a measure of the market's valuation of credit risk. Credit spreads are quoted in basis points (hundredths of a percentage point) relative to a benchmark such as a U.S. Treasury bond or the U.S. Treasury yield curve. Standard & Poor's website currently reports daily credit spreads above the U.S. Treasury yield curve for two rating spectrums within the U.S. corporate sector:

- **Standard & Poor's U.S. Investment-Grade Credit Composite** represents daily credit spread levels within the U.S. investment grade rating spectrum.
- **Standard & Poor's U.S. Speculative-Grade Credit Composite** represents daily credit spread levels within the U.S. speculative grade rating spectrum.

Daily credit spreads data is available from January 10, 2003 on our website. Please note that starting on January 15, 2007, the index coverage was expanded to cover 13,000 bonds from 5,000 bonds earlier, with better mapping across sectors. This had a minor impact on the composite spreads indices.

Features

Standard & Poor's corporate bond spreads are compiled on a daily basis using daily closing option-adjusted spreads (OAS) for more than 13,000 issues. The number of issues varies depending on data availability since a composite is an aggregate of all issues in a single group that fulfill a particular set of criteria. Fixed-coupon bonds, excluding convertible, step-up, and preferred securities, are among the issues included in Standard & Poor's Credit Composites. Issues included in the composite bond spread calculations have the following characteristics:

- Face amount outstanding of \$100 million or greater
- U.S.-dollar denominated issues of companies
- Rated by Standard & Poor's
- Embedded call, put, and sinking fund options (as long as they are not callable or puttable within one year)
- Duration-matched Treasury bond maturity of at least 0.7 years

The creation of a full yield curve requires a sufficient number of bonds with maturities throughout the curve. Lower speculative-grade rated issues have short maturities, making



it impossible to create yield curves with meaningful end values. For these reasons, some rating categories, designations, and maturities are necessarily omitted.

Rating Spectrum

Each business day, issuers that are included or have the potential to be included in the U.S. Investment-Grade Credit Composite and U.S. Industrial Speculative-Grade Credit Composite must be rated by Standard & Poor's with one of the rating designations below.

Investment-Grade Credit Index

Required issue rating designations

Standard & Poor's Ratings Services

AAA
AA+
AA
AA-
A+
A
A-
BBB+
BBB
BBB-*

Speculative-Grade Credit Index

Required issue rating designations

Standard & Poor's Ratings Services

BB+**
BB
BB-
B+
B
B-
CCC+
CCC
CCC-

*Unless the issue also has a CreditWatch listing with Negative or Developing implications

**Unless the issue also has a CreditWatch listing with Positive or Developing implications

Why Use Option-Adjusted Spreads?

Fixed-income securities may have a variety of embedded options. Examples include:

- Call options, giving the issuer the right to repurchase the issue at either one or multiple time(s) and price(s);
- Put options, giving the investor the right to repurchase the issue at either one or multiple time(s) and price(s);
- Sinking fund options, giving the issuer the right to accelerate or vary the manner in which future scheduled principal payments are made.

In certain interest rate environments, the nominal credit spreads of bonds with embedded options may not be representative of actual credit spread movements. OAS are used as a proxy for nominal credit spreads in order to adjust for the presence of these embedded options.

How to Calculate Option-Adjusted Spreads

An OAS is derived from a standard fixed income calculation that measures the market's valuation of credit risk relative to reference yield curve. Using the daily U.S. Treasury yield curve, a short rate volatility, and mean reversion, the OAS model generates an



interest rate binomial tree for one-period-forward rates. When the price of a bond with an embedded option is entered, the model shifts the discount rates on the lattice up or down by a uniform number of basis points until it finds the appropriate discount rate for the bond's cash flows so that their sum converges with the entered price. The magnitude of the shift required for convergence is equal to the OAS. The OAS on bullet (optionless) bonds is about the difference between the corporate bond's yield to maturity and the yield to maturity of a similar U.S. Treasury issue.

Standard & Poor's uses fixed income valuation software developed by Andrew Kalotay Associates, Inc. to calculate OAS, portfolio option adjusted spreads, and effective portfolio duration. For detailed information about the methodologies used in these calculations please refer to the Andrew Kalotay Associates, Inc. Web site: www.debt pays.com, or call (1) 888-525-6829 ((1) 888-KALOTAY).