

Global Leveraged Finance Research–High Yield Americas

Analyst Industry

May 3, 2001

# Description and Inclusion Rules of the CSFB High Yield Index

Data Frequency: Inception: Weekly, Monthly January 1986

## **Inclusion Rules**

The CSFB High Yield Index is designed to mirror the investible universe of the \$US-denominated high yield debt market. As of March 30, 2001, the index included \$379 billion in tradable securities representing a universe of \$704 billion.

New issues are added to the index upon issuance if they qualify according to the following criteria:

- Issues must be publicly registered in the US or issued under Rule 144A with registration rights.
- Issues must be rated "5B" or lower. That is, the highest Moody's/S&P ratings are Baa1/BB+ or Ba1/BB+. See "Ratings" on page 3 for more information.
- The minimum amount outstanding (par value) is \$75 million.
- Issues must be \$US-denominated straight corporate debt, including cash-pay, zero-coupon, stepped-rate and pay-in-kind (PIK) bonds. Floating-rate and convertible bonds and preferred stock are not included.
- If an issuer has more than two issues outstanding, only the two most liquid issues are included in the index.

Indexed issues that fall to below \$50 million outstanding are removed from the index. Fallen angels are added to the index subject to the new issue criteria, except that market value is used instead of par value and a three-month seasoning period is required prior to addition. Rising stars are removed from the index when they are upgraded to investment grade. Issues within one year of maturity are removed from the index.

## **CSFB High Yield Index II**

The CSFB High Yield Index was created from merging the DLJ High Yield Index and the CSFB Global High Yield Index. In order to maintain the separate histories of these two indices, the DLJ High Yield Index has been renamed the CSFB High Yield Index II. The CSFB High Yield Index and CSFB High Yield Index II are identical starting in October 2001. Also, note that the name CSFB Global High Yield Index was used from January 1999 through April 2001; prior to that, it was the CSFB High Yield Index.

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# CSFB High Yield Index, Developed Countries Only

We maintain a subindex, the CSFB High Yield Index, Developed Countries Only, composed of only the issues of issuers from developed countries in the index. The inception date of this subindex is January 1999. Prior to May 2001 it was known as the CSFB Domestic+ High Yield Index.

## Analytics

The following analytic values are computed for each bond. Yields are computed at all possible redemption dates: maturity and each call date. The minimum of these yields is the yield to worst, except that this yield must be above the interpolated US Treasury curve at the redemption date. The yield selected as yield-to-worst always has a positive spread above the curve. This spread is the spread-to-worst, and the redemption date for the yield-to-worst is the yield-to-worst date. The modified duration is computed at the yield-to-worst date.

Current yield is coupon/price for cash-pay bonds, yield-to-worst for zero-coupon bonds and the PIK rate for PIKs. If the bond is a stepped-rate cash-pay or PIK bond, the current interest rate as of the pricing date is used in computing the current yield.

Percent of par value is computed using the offering yield. First, the accreted value is computed, which is the current price that gives a yield-to-maturity equal to the offering yield. The percent of par value is price/accreted value.

Average values are computed over the index for yield-to-maturity, yield-to-worst, spread-to-worst, duration, years to yield-to-worst date, years to maturity, coupon, current yield and percent of par value. The averages for each analytic except for percent of par value are weighted by market value (amount outstanding x price) at the end of the measurement period for each non-defaulted bond in the index. The average for percent of par value is weighted by book value (amount outstanding x accreted value) at the end of the measurement period for *every* bond in the index.

For computing average coupon, the stated coupon is used for non-stepped-rate cash-pay and PIK bonds, and the offering yield is used for zero-coupon and stepped-rate bonds.

Total return is computed for each bond, which is the percent change in the value of each bond during the measurement period. The **total return** is:

(current price + accrued interest + coupon paid (if any) + reinvestment interest on coupon paid) – (previous price + accrued interest) previous price + accrued interest

Total return is the sum of three components: principal, interest, and reinvestment return. The **principal return** is:

<u>current price – previous price</u> previous price + accrued interest

#### The interest return is:

(current accrued interest + coupon paid (if any)) – (previous accrued interest) previous price + accrued interest



The reinvestment return is:

#### reinvestment interest on coupon paid (if any) previous price + accrued interest

The reinvestment interest on the coupon is the amount of interest earned at shortterm rates (using the 3-month Treasury yield) on the coupon for the period from the coupon payment date to the end of the measurement period.

The average principal, interest, reinvestment and total return are computed over the index. The averages for each return component and for total return are weighted by market value (amount outstanding x price) at the *beginning* of the measurement period for every bond in the index.

The cumulative return over several periods is computed as:

$$\left(\prod (\text{total return}_i + 1)\right) - 1$$

This computation assumes that coupon payments are reinvested into the index at the beginning of each period, which approximates the behavior of a portfolio. (Alternatively, the total return formula could be used to compute a single return from the beginning of the first period to the end of the last period, but this assumes that coupons are reinvested at short-term rates, which does not reflect the behavior of a portfolio.)

Averages on sectors of the index, such as industry, rating, security type and region, are also computed. The averages for each sector are computed in the same way as for the entire index.

# Ratings

The CSFB High Yield Index uses a single "blended" Moody's/S&P rating to compute averages sorted by rating. There are nine blended ratings: Investment Grade (which, of course, is excluded from the index), Split BBB, BB, Split BB, B, Split BB, CCC/Split CCC, Distressed/Default and Not Rated. We developed the blended ratings because Moody's and S&P do not always agree on equivalent ratings for a bond. The number of unique Moody's/S&P pairings in the index is large, with many groupings containing only a few bonds.

We created the blended ratings by classifying the Moody's and S&P ratings by major ratings category, ignoring the 1, 2 and 3 Moody's subcategories and the + and - S&P subcategories. If both agencies rate a bond in the same major category, we assign that rating. If the agencies disagree on the rating by one major step, we assign a split rating. If the agencies disagree by two or more major steps, we make the conservative assumption and pick the lower rating.

There are some special cases we must handle. If one agency does not rate the bond, the other agency's rating determines our rating. If either agency assigns an A major rating or better, we classify the bond as investment grade independently of the other agency's rating. Similarly, if the issuer is in bankruptcy or has missed a coupon payment and the grace period has expired, we classify the bond as Distressed/Default independently of the agency ratings. If the S&P rating is D, we classify the bond as Distressed/Default independently of the Moody's rating.



The motivation for creating the blended rating derives from the fact that there are more than 100 unique Moody's/S&P pairings in the index; the exact number varies as individual ratings on bonds change over time. One hundred groupings are too many to draw conclusions about the market's behavior. Further, about half of these groups contain four or fewer bonds, thus lacking distinct drivers and making aggregate calculations statistically meaningless.

Theoretically, there are 247 possible Moody's/S&P pairings for high yield bonds. A bond can have a Moody's rating as high as Baa1 when the bond is rated BB+ or below by S&P; similarly, a bond can have an S&P rating as high as BBB+ when the bond is rated Ba1 or below by Moody's. There are 16 Moody's ratings from Baa1 or below and 16 S&P ratings from BBB+ or below, including "not rated" by each agency. This gives  $16 \times 16 = 256$  pairings, less 9 BBB-only pairings, resulting in 247 ratings.

# The precise rating definitions are listed below.

# **Investment Grade**

- a) Moody's rating is Baa3 or higher and S&P rating is BBB- or higher; or
- b) Moody's rating is Baa3 or higher and S&P rating is NR; or
- c) Moody's rating is NR and S&P rating is BBB- or higher; or
- d) Moody's rating is A3 or higher (S&P rating is ignored); or
- e) S&P rating is A- or higher (Moody's rating is ignored)

N.B.: When bonds are upgraded to Investment Grade, they are removed from the index.

## Split BBB

- a) Moody's rating is Baa1, Baa2 or Baa3 and S&P rating is BB+, BB or BB-; or
- b) Moody's rating is Ba1, Ba2 or Ba3 and S&P rating is BBB+, BBB or BBB-

## BB

- a) Moody's rating is Ba1, Ba2 or Ba3 and S&P rating is BB+, BB or BB-; or
- b) Moody's rating is Ba1, Ba2 or Ba3 and S&P rating is NR; or
- c) Moody's rating is NR and S&P rating is BB+, BB or BB-

## Split BB

- a) Moody's rating is Ba1, Ba2 or Ba3 and S&P rating is B+, B or B-; or
- b) Moody's rating is B1, B2 or B3 and S&P rating is BB+, BB or BB-

## В

- a) Moody's rating is B1, B2 or B3 and S&P rating is B+, B or B-; or
- b) Moody's rating is B1, B2 or B3 and S&P rating is NR; or
- c) Moody's rating is NR and S&P rating is B+, B or B-; or
- d) Moody's rating is B1, B2 or B3 and S&P rating is BBB+, BBB or BBB–; or
- e) Moody's rating is Baa1, Baa2 or Baa3 and S&P rating is B+, B or B-

## Split B

- a) Moody's rating is B1, B2 or B3 and S&P rating is CCC+, CCC or CCC-; or
- b) Moody's rating is Caa, Caa1, Caa2 or Caa3 and S&P rating is B+, B or B-



# CCC/Split CCC

- a) Moody's rating is Caa, Caa1, Caa2 or Caa3 and S&P rating is CCC+, CCC, CCC-, CC or C; or
- b) Moody's rating is Caa, Caa1, Caa2, Caa3, Ca or C and S&P rating is CCC+, CCC or CCC-; or
- c) Moody's rating is Caa, Caa1, Caa2 or Caa3 and S&P rating is NR; or
- d) Moody's rating is NR and S&P rating is CCC+, CCC or CCC-; or
- e) Moody's rating is Caa, Caa1, Caa2 or Caa3 and S&P rating is BBB+, BBB, BBB-, BB+, BB or BB-; or
- Moody's rating is Baa1, Baa2, Baa3, Ba1, Ba2 or Ba3 and S&P rating is CCC+, CCC or CCC-

# **Distressed/Default**

- a) Default flag is set, indicating issuer filed for bankruptcy protection or missed a coupon payment and the grace period expired (Moody's and S&P ratings are ignored); or
- b) S&P rating is D (Moody's rating is ignored); or
- c) Moody's rating is Ca or C and S&P rating is CC or C; or
- d) Moody's rating is Ca or C and S&P rating is NR; or
- e) Moody's rating is NR and S&P rating is CC or C; or
- f) Moody's rating is Ca or C and S&P rating is BBB+, BBB, BBB-, BB+, BB, BB-, B+, B or B-; or
- g) Moody's rating is Baa1, Baa2, Baa3, Ba1, Ba2, Ba3, B1, B2 or B3 and S&P rating is CC or C

## Not Rated

a) Moody's rating is NR and S&P rating is NR

AMSTERDAM31 20 5754 890	JOHANNESBURG 2711 884 67 41	SÃO PAULO55 11 3841 6000
ATLANTA1 404 656 9500	LONDON 44 20 7888 8888	SEOUL82 2 3707 3700
AUCKLAND64 9 302 5500	MADRID 34 91 423 16 00	SHANGHAI86 21 6881 8418
BALTIMORE1 410 223 3000	MELBOURNE 61 3 9280 1666	SINGAPORE65 212 2000
BEIJING86 10 6410 6611	MEXICO CITY 52 5 283 89 00	SYDNEY61 2 8205 4400
BOSTON1 617 556 5500	MILAN 39 02 7702 1	TAIPEI886 2 2715 6388
BUDAPEST	MOSCOW 7 501 967 8200	THAILAND66 2 614 6000
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HONG KONG852 2101 6000	PRAGUE 420 2 210 83111	ZUG41 41 727 97 00
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